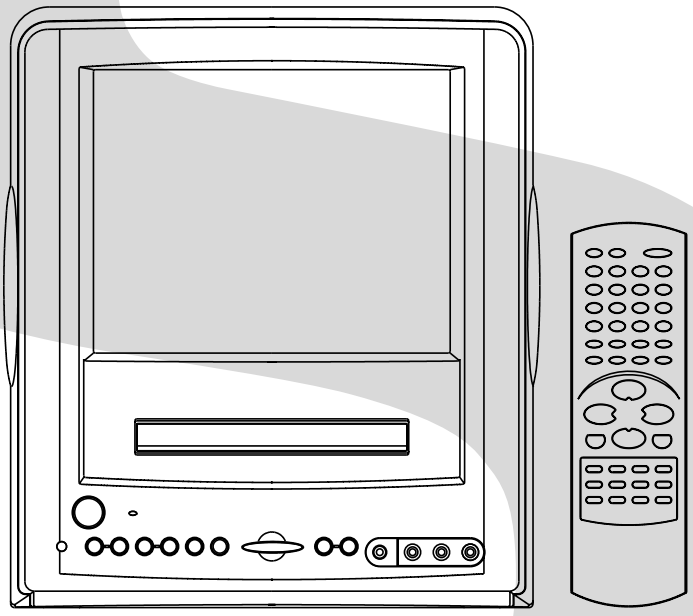
TOSHIBA

FILE NO. 140-200109

SERVICE MANUAL

COLOR TELEVISION/ DVD VIDEO RLAYER

MD9DL1



CAUTION

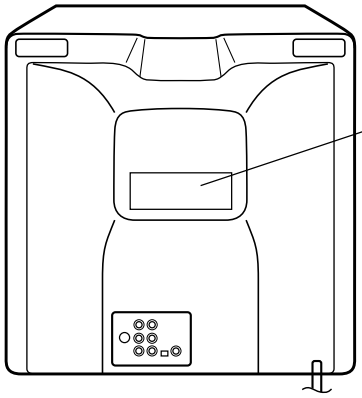
THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS SERVICE MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking
The rating sheet and the safety caution are on the rear of the unit.



CERTIFICATION: COMPLIES WITH FDA RADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note1]** .
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER
   The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

IMPORTANT SAFEGUARDS

1. **READ INSTRUCTIONS**
   All the safety and operating instructions should be read before the unit is operated.
2. **RETAIN INSTRUCTIONS**
   The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS**
   All warnings on the unit and in the operating instructions should be adhered to.
4. **FOLLOW INSTRUCTIONS**
   All operating and use instructions should be followed.
5. **CLEANING**
   Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **ATTACHMENTS**
   Do not use attachments not recommended by the unit's manufacturer as they may cause hazards.
7. **WATER AND MOISTURE**
   Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
8. **ACCESSORIES**
   Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer.

PORTABLE CART WARNING
(symbol provided by RETAC)

S3126A

8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. **VENTILATION**
   Slots and openings in the cabinet and in the back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. **POWER SOURCES**
    This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.
11. **GROUNDING OR POLARIZATION**
    This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. If your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
12. **POWER-CORD PROTECTION**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **LIGHTNING**
    To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.
14. **POWER LINES**
    An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.
15. **OVERLOADING**
    Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.
16. **OBJECT AND LIQUID ENTRY**
    Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.
17. **OUTDOOR ANTENNA GROUNDING**
    If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
18. **SERVICING**
    Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

IMPORTANT SAFEGUARDS (CONTINUED)

19. DAMAGE REQUIRING SERVICE

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power-supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the unit.
c. If the unit has been exposed to rain or water.
d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
e. If the unit has been dropped or the cabinet has been damaged.
f. When the unit exhibits a distinct change in performance, this indicates a need for service.

20. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original parts.
Unauthorized substitutions may result in fire, electric shock or other hazards.

21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

22. WALL OR CEILING MOUNTING

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

23. HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

24. DISC TRAY

Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.

25. CONNECTING

When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.

26. SOUND VOLUME

Reduce the volume to the minimum level before you turn on the product. Otherwise, sudden high volume sound may cause hearing or speaker damage.

27. SOUND DISTORTION

Do not allow the product output distorted sound for a longtime. It may cause speaker overheating and fire.

28. HEADPHONES

When you use the headphones, keep the volume at a moderate level. If you use the headphones continuously with high volume sound, it may cause hearing damage.

29. LEASER BEAM

Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.

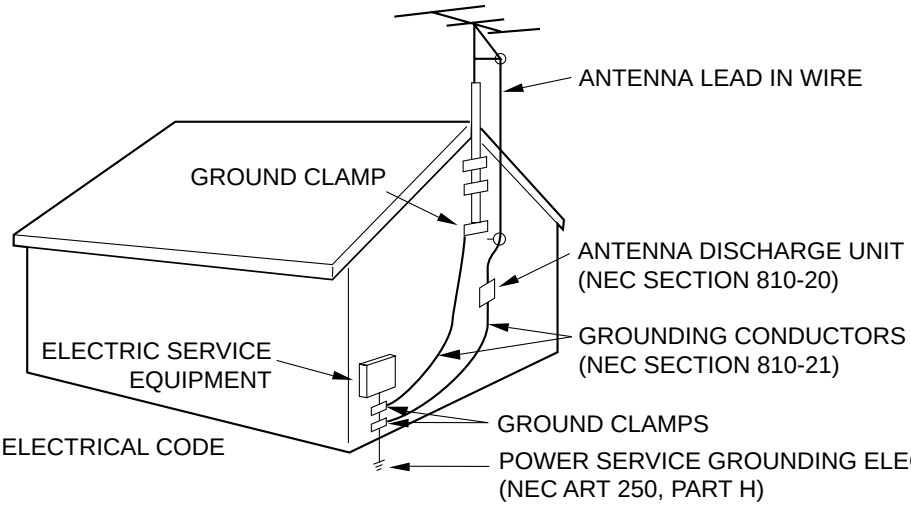
30. DISC

Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.

31. NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE



NEC-NATIONAL ELECTRICAL CODE

S2898A

GENERAL SPECIFICATIONS

G-1	**TV System**	CRT	CRT Size / Visual Size	9 Inch / 228.6 mmV
			CRT Type	Normal
			Deflection	90 degree
			Magnetic Field BV/BH	+0.45G/0.18G
		Color System		NTSC
		Speaker		2 Speaker
			Position	Side
			Size	3 Inch
			Impedance	8 Ohm
		Sound Output	Max	1.2+1.2 W
			10%(Typical)	0.8+0.8 W
G-2	**DVD System**	Color System		NTSC
		Disc		DVD, CD-DA
		Disc Diameter		120 mm , 80 mm
		Deck	Disc Loading System	Front Loading
			Motor	3 Motors
		Pick up		1-Lens 2-Beams System
		Playback time(Max)	DVD 1-Layer	135min (4.7GB)
			DVD 2-Layer	245min (8.5GB)
			CD	74min
			VIDEO CD	--min
		Search speed		Fwd 2-20 times
			Actual	2-45 times
				Rev 2-20 times
			Actual	2-45 times
		Slow speed		Fwd 1/7-1/2 times
			Actual	--
				Rev 1/7 -1/2 times
			Actual	1-2 times
G-3	**Tuning System**	Broadcasting System		US System M
		Tuner and Receive CH	System	1Tuner
			Channel Tuner	Others
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 Ohm
			CH Coverage	2~69, 4A, A-5~A-1, A~I, J~W, W+1~W+84
		Intermediate Frequency	Picture(FP)	45.75MHz
			Sound(FS)	41.25MHz
			FP-FS	4.50MHz
		Preset CH		--
		Stereo/Dual TV Sound		Yes
		NTSC Playback (PAL60)		No
G-4	**Power**	Power Source	AC	120V, 60Hz
			DC	12V
		Power Consumption	at AC	55W at 120V 60Hz
			at DC	55W at 12V
			Stand by (at AC)	8 W at 120V 60Hz
			Per Year	-- kWh/Year
		Power Supply Cord		UL
		Protector	Power Fuse	Yes
G-5	**Signal**	Video Signal	Input Level	1 V p-p/75 ohm
			Output Level	1 V p-p/75 ohm
			S/N Ratio (Weighted)	65dB
			Horizontal Resolution at DVD Mode	400 Lines (TV Monitor)
				500 Lines (Video Out)
		RGB Signal	Output Level	-- V p-p/75 ohm
		Audio Signal	Input Level	RCA -8.0dB/50Kohm
			Output Level	RCA -8.0dB/1Kohm
			S/N Ratio at DVD (Weighted)	90 dB
			Harmonic Distortion	0.01% (1KHz)
			Frequency Response : at DVD	4Hz - 22KHz
			at VIDEO CD	--
			at CD	4Hz - 20KHz
		Digital Audio Signal	Output Level	0.5 V p-p/75 ohm

GENERAL SPECIFICATIONS

G-6	**Interface**	Switch	Front	Power (Tact)	Yes
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
				Play	Yes
				Open/Close	Yes
				Skip(>>)	Yes
				Skip(<<)	Yes
				Still/Pause	No
				Stop	Yes
				Main Power SW	No
			Rear	AC/DC	No
				Color On/Off (SECAM Only)	No
				Degauss	No
				Main Power SW	No
		Indicator		Power	Red
				Stand-by	No
				On Timer	No
		Terminals	Front	Video Input	Yes
				Audio Input	Yes (Stereo)
				Other Terminal	Head Phone
			Rear	Video Input(Rear1)	No
				Video Input(Rear2)	No
				Audio Input(Rear1)	No
				Audio Input(Rear2)	No
				Video Output	Yes
				Audio Output	Yes (Stereo)
				Euro Scart	No
				Digital Audio Output	Coaxial
				Optical Audio Output	No
				Color Stream	No
				Diversity	No
				Ext Speaker	No
				DC Jack 12V(Center +)	Yes
				VHF/UHF Antenna Input	F Type
				AC Outlet	No
G-7	**Set Size**			Approx. W x D x H (mm)	278.0x306.5x311.5
G-8	**Weight**			Net (Approx.)	8.0kg (17.6lbs)
				Gross (Approx.)	9.1kg (20.1lbs)
G-9	**Regulation**			Safety	UL
				Radiation	FCC
				X-Radiation	DHHS
G-10	**Temperature**			Operation	5oC ~ 40oC
				Storage	-20oC ~ 60oC
G-11	**Operating Humidity**				Less than 80% RH

GENERAL SPECIFICATIONS

G-12	**On Screen Display**	Menu(TV)			Yes
			Menu Type		Icon
			Picture		Yes
				Contrast	Yes
				Brightness	Yes
				Color	Yes
				Tint	Yes
				Sharpness	Yes
			Sound		No
				Bass	No
				Treble	No
				Balance	No
			CH		Yes
				Auto Tuning	Yes
				Manual Tuning	Yes
				CATV	Yes
			Option		Yes
				Language	Yes
				V-Chip	Yes
		Clock			No
		Clock Set			No
		On/Off Timer			No
		Sleep Timer			Yes
		CH/AV/DVD			Yes
		Stereo, Audio Output, Bilingual			No
		Stereo, Audio Output, SAP(Stereo Only)			Yes
		Stereo, Audio Output			No
		Sound 1/2			No
		SAP (Stereo Only)			Yes
		NICAM Auto Off			No
		Closed Caption			Yes
		System Select			No
		Area Code			No
		Pin Code Registration			No
		Pin Code			No
		DVD RGB /Composite			No
		Game			Yes
		Hotel Lock			No
		Volume			Yes
		Sound Mute			No
	On Screen Display	Menu(DVD)			Yes
			Menu Type		Character
			Rating Level		Yes
			Audio		Yes
			Sub Title		Yes
			TV Screen Size		Yes
			OSD Display On/Off		Yes
			Menu Language		Yes
			Audio Output		No
			Set Up Language		Yes
			Password Lock/Unlock		Yes
		Open			Yes
		Close			Yes
		No disc			Yes
		Reading			Yes
		Play			Yes
		Still/Pause			Yes
		Stop			Yes
		Prohibit Mark			Yes
		Step			Yes
		Next			Yes
		Back			Yes
		Random			Yes(CD Only)
		Repeat			Yes
		Slow+ ##			Yes
		Slow- ##			Yes
		Search+ ##			Yes
		Search- ##			Yes
		Jump			Yes
		Resume			Yes
		Title No.			Yes
		Chapter No.			Yes
		Track No.			Yes
		Time			Yes
		Sub Title No.			Yes
		Angle No.			Yes
		Vocal On/Off			Yes
		Audio No.			Yes
		Audio Stereo L/R			No
		Zoom			Yes
		Marker No.			No
		Program Play Back			Yes(CD Only)

GENERAL SPECIFICATIONS

G-13	**OSD Language**	(TV)		Eng, Fre, Spa
		(DVD)		Eng, Fre, Spa
G-14	**Remote Control**	Unit		RC-EF
		Glow in Dark Remocon		Yes
		Format		NEC
		Custom Code		71-8E h
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-4 x 2 pcs
		Total Keys		45 Keys
		Keys	Power	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			Open/Close	No
			Play	Yes
			Stop	Yes
			Search+	Yes
			Search-	Yes
			Skip+	Yes
			Skip-	Yes
			Slow+	Yes
			Slow-	Yes
			Still/Pause	Yes
			Display/Call	Yes
			TV/DVD	Yes
			Clear/Reset	Yes
			Audio/Audio Sel.	Yes
			Angle	Yes
			Subtitle	Yes
			Subtitle On/Off	No
			Title	Yes
			Set up/TV Menu <TV MENU>	Yes
			Return	Yes
			Menu DVD <SET UP>	Yes
			Up/ Set+/ CH Up	Yes
			Down/ Set-/ CH Down	Yes
			Left/Select-	Yes
			Right/Select+	Yes
			Select/Enter	Yes
			Play Mode	Yes
			Closed Caption	Yes
			Input	Yes
			Volume+	Yes
			Volume-	Yes
			Repeat A-B	Yes
			Zoom/ Quick View	Yes
			Mute	No
			Sleep	Yes
			Jump	Yes
			Text/Mix/TV	No
			Game	Yes

GENERAL SPECIFICATIONS

G-15	**Features**	Auto Degauss		Yes
		Auto Shut Off		Yes
		Auto Power On, Auto Play		No
		Canal+		No
		CATV		Yes
		Anti-theft		No
		Rental		No
		Memory(Last CH)		Yes
		Memory(Last Volume)		Yes
		V-Chip		Yes
			Type	--
		BBE		No
		Fast Text		No
		UniText		No
		Top Text		No
		Auto Search		No
		CH Allocation		No
		SAP		Yes
		Channel Lock		No
		Just Clock Function		No
		Game Position		Yes
		CH Label		No
		VM Circuit		No
		Area Code		No
		FM Transmitter		No
		Energy Star		No
		TV Monitor		No
		Closed Caption		Yes
		Full OSD		Yes
		Premiere		No
		Comb Filter		No
				-- Lines
		Parental Lock (DVD Only)		Yes
		Auto CH Memory		Yes
		Hotel Lock		No
		Stable Sound		No
		Favorite CH		No
		Digital Out	(Dolby Digital)	Yes
			(PCM)	Yes
			(DTS)	Yes
		Down Mix Out	(Dolby Digital)	Yes
		Self Diagnostic		No
		MP3 Playback		No
G-16	**Accessories**	Owner's Manual	Language	Eng
			w/Guarantee Card	Yes
		Guarantee Card		No
		Registration Card(NDL Card)		No
		Registration Card		Yes
		Warranty Card		No
		Information Sheet		No
		ESP Card		Yes
		Toll Free Insert Sheet		No
		Warning Sheet		No
		Survice Information Sheet		No
		Quick Set-up Sheet		No
		Euro Warranty Information Sheet		No
		Dew/AHC Caution Sheet		No
		PTB Sheet		No
		Circuit Diagram		No
		Service Facility List		No
		Service Station List		No
		Inportant Safeguard		No
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	No
			Terminal	--
		Loop Antenna		No
			Terminal	--
		75 Ohm Coaxial Cable		No
				--
		21pin Cable		No
		U/V Mixer		No
		Channel Film		No
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
			OEM Brand	No
		DC Car Cord (Center+)		Yes
		AC Cord		No
		AV Cord (2Pin-1Pin)		No
		AC Plug Adaptor		No
		Safety Tip		No
		Anntena Change Plug		No
		300 ohm to 75 ohm Antenna Adapter		Yes

GENERAL SPECIFICATIONS

G-17	**Carton**	Master Carton		No
			Content	--- Sets
			Material	--- / ---
			Dimensions W x D x H(mm)	---
			Description of Origin	---
		Gift Box		Yes
			Material	Double/White
			W/Color Phote Label	No
			Dimensions W x D x H(mm)	338x376x386
			Design	As Per Buyer 's
			Description of Origin	Yes
		Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
			Height (cm)	62
		Container Stuffing		1260 Sets/40' container
G-18	**Cabinet Material**		Cabinet Front	PS, 94V0
			Cabinet Rear	PS, 94V0

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 4 screws ①.
2. Remove the 2 screws ②.
   Remove the 2 screws ③ which are used for holding the Back Cabinet.
3. Remove the Back Cabinet in the direction of arrow.

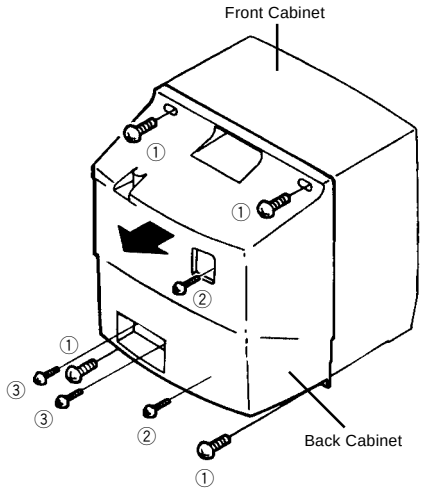


Fig. 1-1

1-2: CRT PCB (Refer to Fig. 1-2)

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap.
   (Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connectors:
   (CP801 and CP850B).
3. Remove the CRT PCB in the direction of arrow.

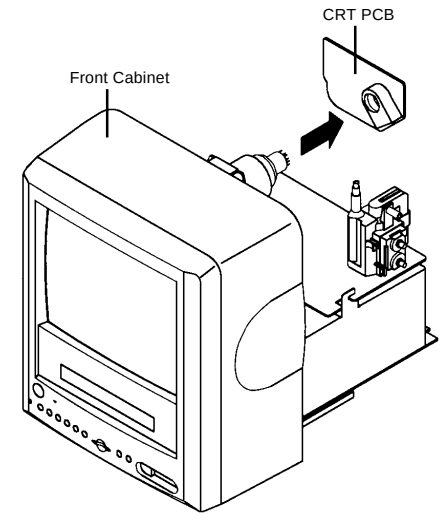


Fig. 1-2

1-3: TV/DVD BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Disconnect the following connectors:
   (CP301, CP302, CP401 and CP403).
3. Remove the TV/DVD Block in the direction of arrow.

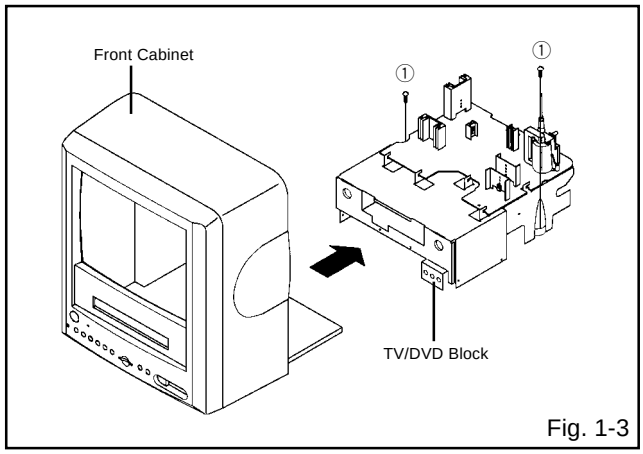


Fig. 1-3

1-4: MAIN PCB (Refer to Fig. 1-4)

1. Remove the screw ①.
2. Remove the Main PCB Holder.
3. Remove the screw ②.
4. Remove the 2 screws ③.
5. Remove the 2 screws ④.
6. Disconnect the following connectors:
   (CP810B, CP820B, CP811 and CD401).
7. Remove the Main PCB in the direction of arrow.

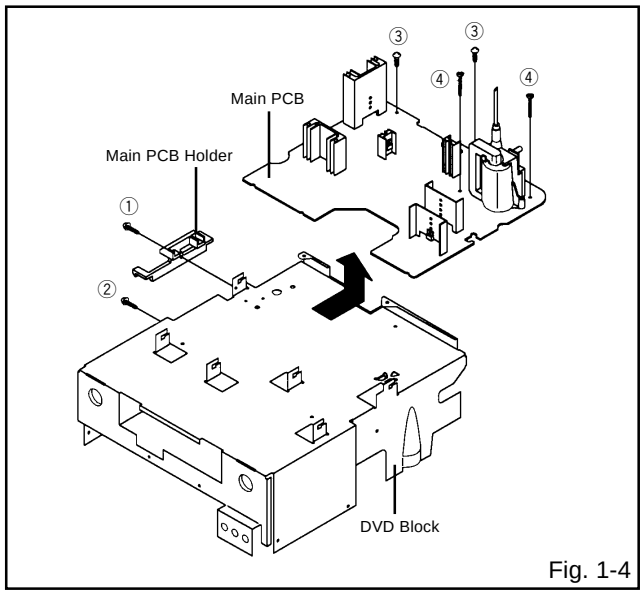


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

1-5: FRONT TRAY PLATE/TOP SHIELD
(Refer to Fig. 1-5)

1. Unlock the 2 supports ①.
2. Remove the Front Tray Plate in the direction of arrow (A).
3. Remove the 14 screws ②.
4. Remove the Top Shield in the direction of arrow (B).

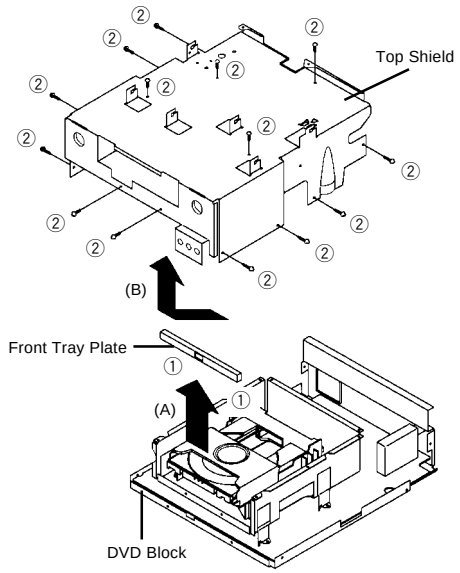


Fig. 1-5

1-6: AV PCB/SYSCON PCB/CD DECK (Refer to Fig. 1-6)

1. Remove the screw ①.
2. Remove the Bush Holder in the direction of arrow (A).
3. Remove the 2 screws ②.
4. Remove the AV PCB in the direction of arrow (B).
5. Remove the 4 screws ③.
6. Remove the Angle Deck in the direction of arrow (C).
   Disconnect the following connectors:
7. (CP4001 and CP4002).
8. Remove the 4 screws ④.
9. Remove the CD Deck in the direction of arrow (D).
10. Remove the 4 screws ⑤.
11. Remove the Syscon PCB in the direction of arrow (E).

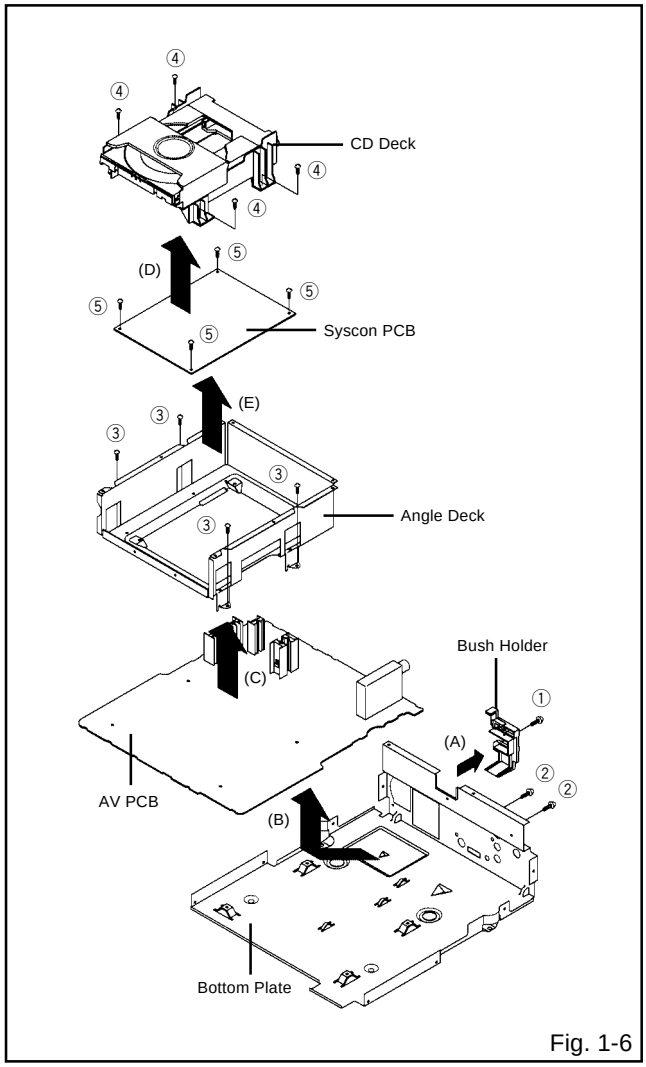


Fig. 1-6

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 2-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

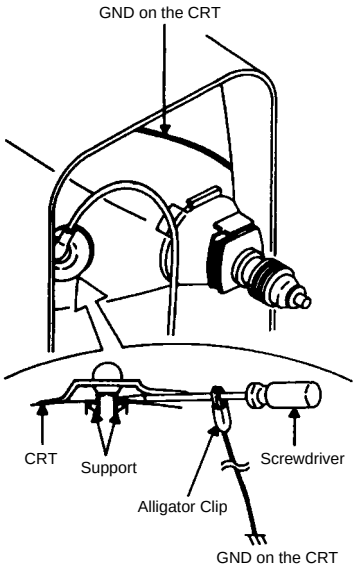


Fig. 2-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 2-2.)**

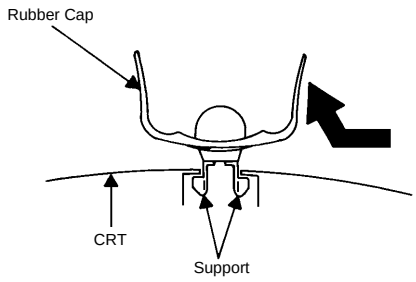


Fig. 2-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 2-3.)**

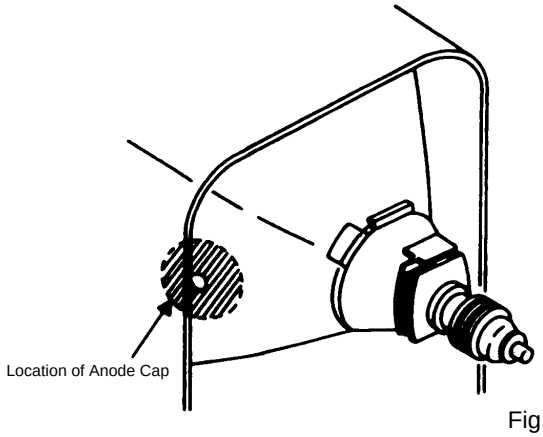


Fig. 2-3

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 2-4.)**

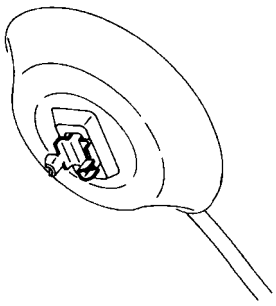


Fig. 2-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 2-5**.

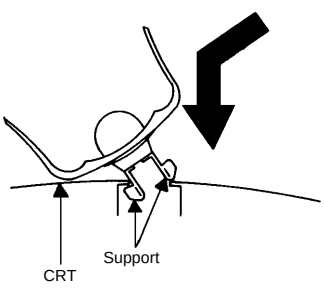


Fig. 2-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF DEFLECTION YOKE

(Refer to Fig. 3-1)

1. Loosen the screw ①.
2. Remove the Convergence • Purity Magnet in the direction of arrow.
3. Remove the 3 Wedges.
4. Remove the Deflection Yoke in the direction of arrow.

INSTALLATION

Install new Deflection Yoke in reverse steps of REMOVAL.

NOTE

After adjusting the purity and the convergence, fix the screw ① and lock the wedges.

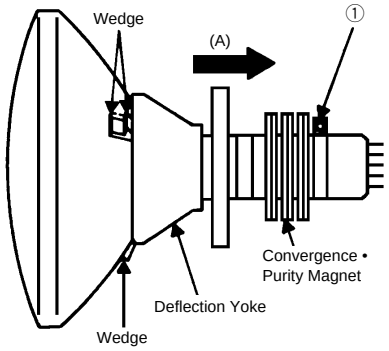


Fig. 3-1

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

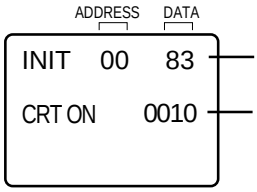
To enter the Service Mode, press both set key and remote control key.
Press both the VOL. key and remocon keys simultaneously for more than 1 second.
Press both the STOP key and remocon keys simultaneously for more than 3 seconds.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	Initialization of the factory on TV. NOTE: No operation at DVD mode. Do not use this for the normal servicing.
VOL. (-) MIN	2	Initialization of the factory on DVD. NOTE: The operation will work only with STOP mode at DVD mode. Do not use this for the normal servicing.
VOL. (-) MIN	6	POWER ON total hours are displayed on the screen. Refer to the "CONFIRMATION OF USING HOURS". NOTE: No operation at DVD mode. Can be checked of the INITIAL DATA of MEMORY IC on TV. Refer to the "NOTE FOR THE REPLACING OF MEMORY IC". NOTE: No operation at DVD mode.
VOL. (-) MIN	8	Writing of EEPROM initial data on TV. NOTE: No operation at DVD mode. Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	7	Releasing of PARENTAL LOCK. NOTE: The operation will work only with STOP mode at DVD mode.

CONFIRMATION OF USING HOURS

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.



Initial setting content of MEMORY IC.

POWER ON total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)

FIG. 1

NOTE FOR THE REPLACING OF MEMORY IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.
No need the setting for the INI 4E~6A because the adjustment values are recorded.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	94	43	00	31	E1	B3	27	D5	01	40	C9	40	40	40	00	02
10	04	06	08	0A	0C	0E	10	13	16	19	1C	1F	21	23	25	27
20	29	2B	2C	2D	2E	2F	30	31	32	33	34	35	36	37	38	39
30	3A	3B	3C	3D	3E	3F	40	41	42	43	44	45	46	47	48	49
40	4A	4B	4D	4F	51	55	5A	60	65	6A	70	75	7A	7F	---	---
50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
60	---	---	---	---	---	---	---	---	---	---	---	10	---	---	---	---

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.

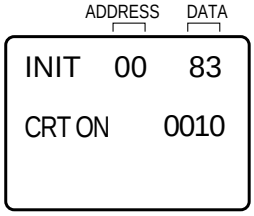


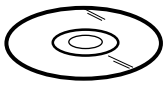
Fig. 1

3. ADDRESS is now selected and should "blink". Using the VOL. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using VOL. UP/DOWN button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

The unit will now have the correct DATA for the new MEMORY IC.

SERVICING FIXTURES AND TOOLS

JG175A DVD Test Disc
(A-BEX TDV-540)



Ref. No.	Part No.	Parts Name	Remarks
JG175A	APJG175A00	DVD Test Disc (A-BEX TDV-540)	Tint adjustment of DVD mode

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
  Inferior silicon grease can damage IC's and transistors.
- When replacing IC's and transistors, use only specified silicon grease.
  Remove all old silicon before applying new silicon.

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. AC Voltmeter
4. Pattern Generator

On-Screen Display Adjustment

1. In the condition of NO indication on the screen. Press the VOL. DOWN button on the set and the Channel button **(9)** on the remote control for more than 1 second to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

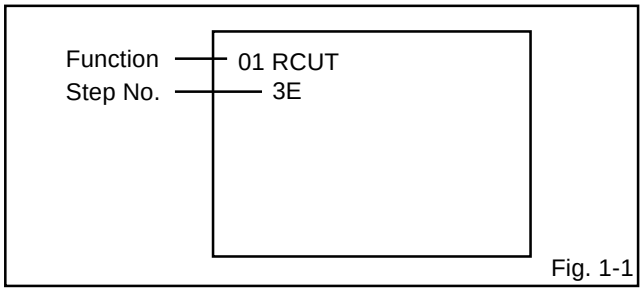


Fig. 1-1

2. Use the Channel UP/DOWN button or Channel button **(1-0)** on the remote control to select the options shown in **Fig. 1-2**.
3. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
01	R CUT OFF	37	BRI. AV(CENT.)
02	G CUT OFF	38	BRI. AV(MAX)
03	B CUT OFF	39	BRI. AV(MIN)
04	G DRIVE	40	COL. AV(CENT.)
05	B DRIVE	41	COL. AV(MAX)
06	BRIGHTNESS(CENT.)	42	COL. AV(MIN)
07	BRIGHTNESS(MAX)	43	TINT AV
08	BRIGHTNESS(MIN)	44	SUB CONTRAST AV
09	COLOR(CENT.)	45	CONT. AV(CENT.)
10	COLOR(MAX)	46	CONT. AV(MAX)
11	COLOR(MIN)	47	CONT. AV(MIN)
12	TINT	48	SHARPNESS AV
13	SUB CONTRAST	49	BRI. DVD(CENT.)
14	CONTRAST(CENT.)	50	BRI. DVD(MAX)
15	CONTRAST(MAX)	51	BRI. DVD(MIN)
16	CONTRAST(MIN)	52	COL. DVD(CENT.)
17	SHARPNESS	53	COL. DVD(MAX)
18	RGB CONTRAST	54	COL. DVD(MIN)
19	H POSITION	55	TINT DVD
20	V POSITION	56	SUB CONTRAST DVD
21	V SIZE	57	CONT. DVD(CENT.)
22	V LINEARITY	58	CONT. DVD(MAX)
23	V S CORRECTION	59	CONT. DVD(MIN)
24	EW PARABOLA CORR.	60	SHARPNESS DVD
25	EW TRAPEZIUM CORR.	61	BRI. GAME(CENT.)
26	H SIZE	62	BRI. GAME(MAX)
27	V EHT	63	BRI. GAME(MIN)
28	H EHT	64	CONT. GAME(CENT.)
29	RF AGC	65	CONT. GAME(MAX)
30	V CENTERING	66	CONT. GAME(MIN)
31	CORNER CORR. TOP	67	TUNING V MUTE
32	CORNER CORR. BTM	68	POWER ON V MUTE
33	OSD H	69	INPUT LEVEL
34	FM LEVEL	70	SEPARATION L
35	TEST PWM	71	SEPARATION H
36	TEST TONE CONTROL	72	CUT OFF

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Input DC12V to DC Jack and turn the Power ON.
2. Connect the digital voltmeter to the **TP401**.
3. Set condition is AV MODE without signal.
4. Adjust the **VR501** until the digital voltmeter is 101 ± 0.5V.
5. Input AC100V to AC cord and remove the DC Jack cord. Check if the Power is ON before doing the above procedure.
6. Adjust the **VR502** until the digital voltmeter is 102 ± 0.5V.

2-2: RF AGC

1. Receive the VHF HIGH (63dB).
2. Place the set with Aging Test for more than 15 minutes.
3. Connect the digital voltmeter between the **pin 5 of CP101** and the **pin 1 of CP101**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(29)** on the remote control to select "AGC".
5. Press the RIGHT/LEFT button on the remote control until the digital voltmeter is 2.6 ± 0.05V.

2-3: CUT OFF

1. Place the set with Aging Test for more than 15 minutes.
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(72)** on the remote control to select "CUT OFF".
5. Adjust the **Screen Volume** until a dim raster is obtained.

ELECTRICAL ADJUSTMENTS

2-4: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the white 100% signal from the Pattern Generator.
3. Using the adjustment control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "RCUT".
5. Using the RIGHT/LEFT button on the remote control, adjust the RCUT.
6. Press the CH. UP/DOWN button on the remote control to select the "GDRV", "BDRV", "GCUT" or "BCUT".
7. Using the RIGHT/LEFT button on the remote control, adjust the GDRV, BDRV, GCUT or BCUT.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

2-5: FOCUS

1. Receive the monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-6: HORIZONTAL POSITION

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(19)** on the remote control to select "HPOSI".
4. Press the RIGHT/LEFT button on the remote control until the right and left screen size of the vertical line becomes the same.

2-7: VERTICAL LINEALITY

NOTE: Adjust after performing adjustments in section 2-6.

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "VLIN".
4. Press the RIGHT/LEFT button on the remote control until the upside and downside screen size of the horizontal line becomes the same.

2-8: VERTICAL POSITION

NOTE: Adjust after performing adjustments in section 2-7.

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(20)** on the remote control to select "VPOSI".
4. Adjust the **VR402** until the horizontal line becomes fit to the notch of the shadow mask.

2-9: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-8.

1. Receive the crosshatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(21)** on the remote control to select "VSIZE".
4. Press the RIGHT/LEFT button on the remote control until the rectangle on the center of the screen becomes square.
5. Receive a broadcast and check if the picture is normal.

2-10: OSD HORIZONTAL

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(33)** on the remote control to select "OSD".
2. Press the RIGHT/LEFT button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-1)**

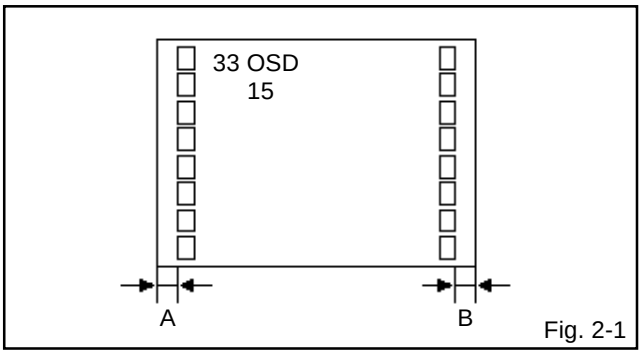


Fig. 2-1

2-11: LEVEL

1. Receive the VHF HIGH (70dB).
2. Connect the AC voltmeter to **TP901**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(69)** on the remote control to select "LVL".
4. Press the RIGHT/LEFT button on the remote control until the AC voltmeter is 75 ± 2mV.

ELECTRICAL ADJUSTMENTS

2-12: SEPARATION L/H

1. Receive the stereo signal (L=2KHz, R=400Hz).
2. Connect the AC voltmeter to **AUDIO OUT JACK** though stereo filter (L=400Hz, R=2KHz).
3. Press the AUDIO button on the remote control to set to the STEREO mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(70)** on the remote control to select "SEPAL".
5. Press the RIGHT/LEFT button on the remote control until the output of L-CH and R-CH become minimum.
6. Press the CH UP button once the set to "SEPAH" mode.
7. Press the RIGHT/LEFT button on the remote control until the output of L-CH and R-CH become minimum.
8. Press the CH DOWN button once the set to "SEPAL" mode.
9. Repeat step 5 to step 8 several times.
   The output difference of the between with Filter and without Filter should be more than 20dB for both L and R.

2-13: SUB BRIGHT CENTER

1. Receive the monoscope pattern. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(06)** on the remote control to select "BRTC".
4. Press the RIGHT/LEFT button on the remote control to adjust to the point just before the white 5% begin to shine.
5. Receive the monoscope pattern. (Audio Video Input)
6. Press the INPUT SELECT button on the remote control to set to the AV mode.
7. Using the remote control, set the brightness and contrast to normal position.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(37)** on the remote control to select "BRTCA".
9. Press the RIGHT/LEFT button on the remote control to adjust to the point just before the white 5% begin to shine.
10. Press the TV/DVD button on the remote control to set to the DVD mode.
11. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(49)** on the remote control to select "BRTCD".
12. Press the RIGHT/LEFT button on the remote control to increase the step numbers by 2 steps to the AV.
13. Press the GAME button on the remote control to set to the GAME mode.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(61)** on the remote control to select "BRTCG".
15. Press the RIGHT/LEFT button on the remote control to set the same step numbers as the AV.

2-14: SUB TINT CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP803**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(12)** on the remote control to select "TNTC".
5. Press the RIGHT/LEFT button on the remote control until the section "A" becomes a straight line.
   (Refer to Fig. 2-2)
6. Receive the color bar pattern. (Audio Video Input)
7. Press the INPUT SELECT button on the remote control to set to the AV mode.
8. Using the remote control, set the brightness, contrast, color and tint to normal position.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(43)** on the remote control to select "TNTCA".
10. Press the RIGHT/LEFT button on the remote control until the section "A" becomes a straight line.
    (Refer to Fig. 2-2)
11. Press the TV/DVD button on the remote control to set to the DVD mode.
12. Playback the Title2 (color bar pattern) of **JG175A**.
13. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(55)** on the remote control to select "TNTCD".
14. Press the RIGHT/LEFT button on the remote control until the section "A" becomes a straight line.
    (Refer to Fig. 2-2)

Fig. 2-2

ELECTRICAL ADJUSTMENTS

2-15: SUB COLOR CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscop to **TP801**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select "COLC".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the RIGHT/LEFT button on the remote control until the red color level is adjusted to 110 ± 5% of the white level. **(Refer to Fig. 2-3)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT SELECT button on the remote control to set to the AV mode.
9. Using the remote control, set the brightness, contrast, color and tint to normal position.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(40)** on the remote control to select "COLCA".
11. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
12. Press the RIGHT/LEFT button on the remote control until the red color level is adjusted to 110 ± 5% of the white level. **(Refer to Fig. 2-3)**
13. Press the TV/DVD button on the remote control to set to the DVD mode.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(52)** on the remote control to select "COLCD".
15. Press the RIGHT/LEFT button on the remote control to set the same step numbers as the AV.

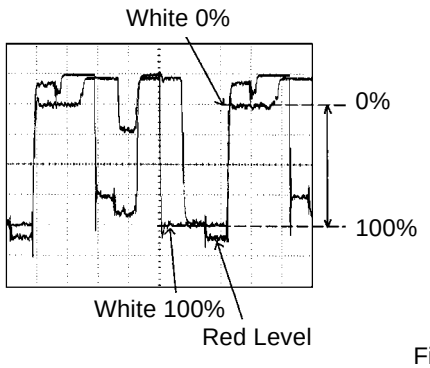


Fig. 2-3

2-16: SUB CONTRAST MAX

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(15)** on the remote control to select "CNTX".
2. Press the RIGHT/LEFT button on the remote control until the contrast step No. becomes "35"
3. Press the INPUT SELECT button on the remote control to set to the AV mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(46)** on the remote control to select "CNTXA".
5. Press the RIGHT/LEFT button on the remote control until the contrast step No. becomes "3A"
6. Press the TV/DVD button on the remote control to set to the DVD mode.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(58)** on the remote control to select "CNTXD".
8. Press the RIGHT/LEFT button on the remote control until the contrast step No. becomes "35"
9. Press the GAME button on the remote control to set to the GAME mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(64)** on the remote control to select "CNTCG".
11. Press the RIGHT/LEFT button on the remote control until the contrast step No. becomes "20"

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

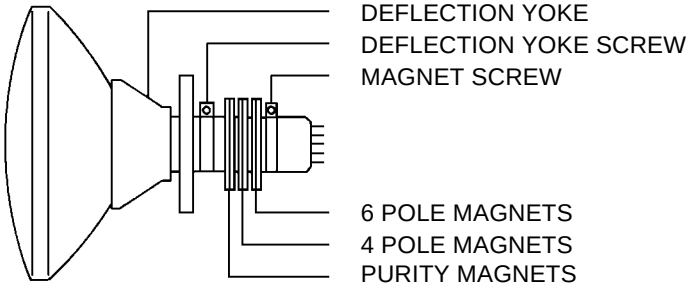


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

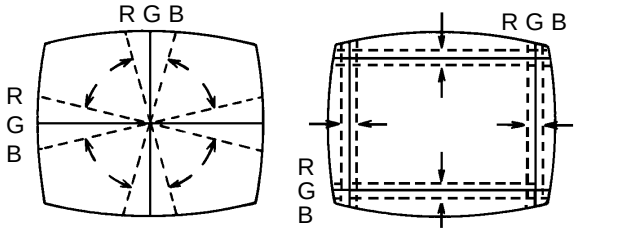
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

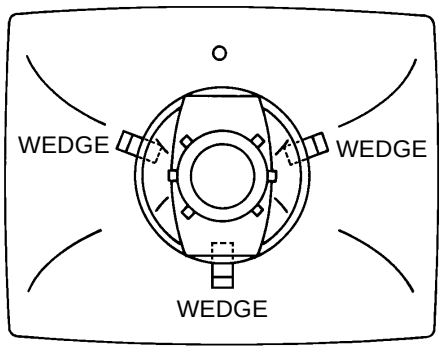
Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

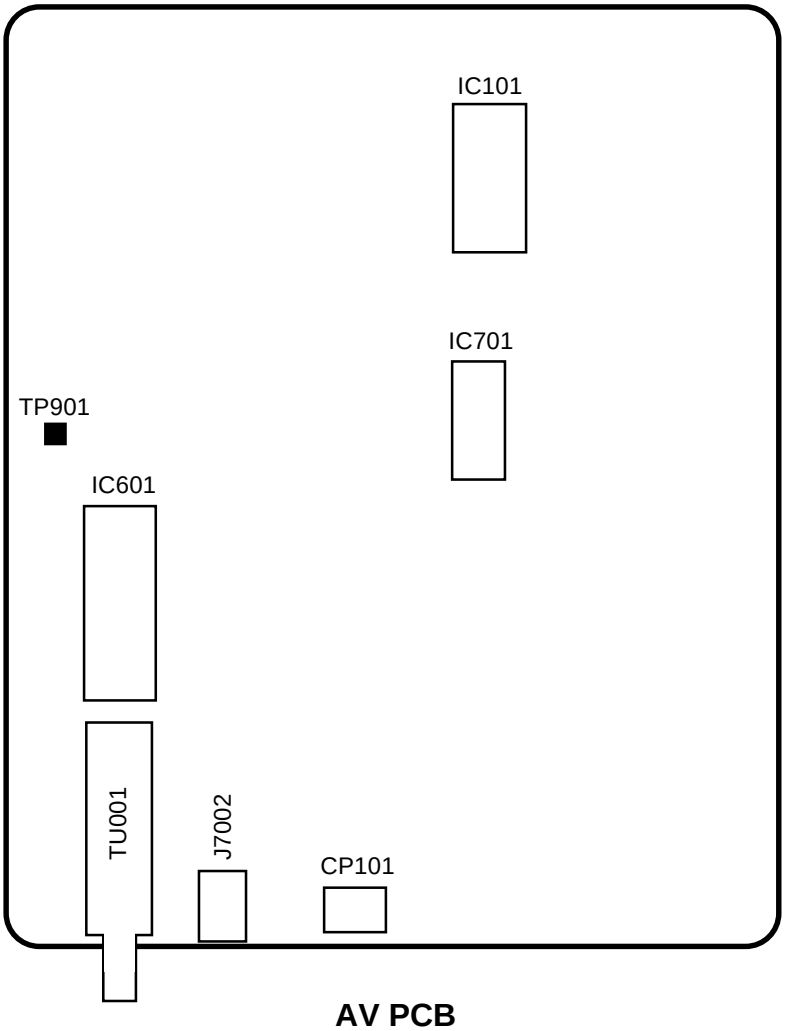
Fig. 3-2-a



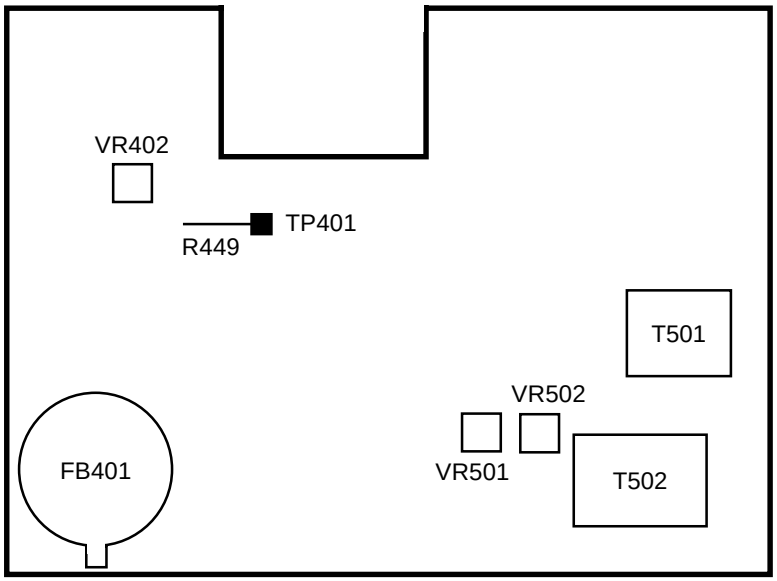
WEDGE POSITION

Fig. 3-2-b

MAJOR COMPONENTS LOCATION GUIDE

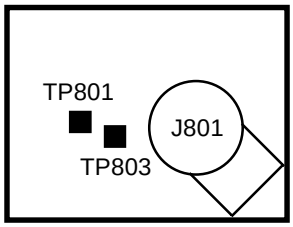


AV PCB



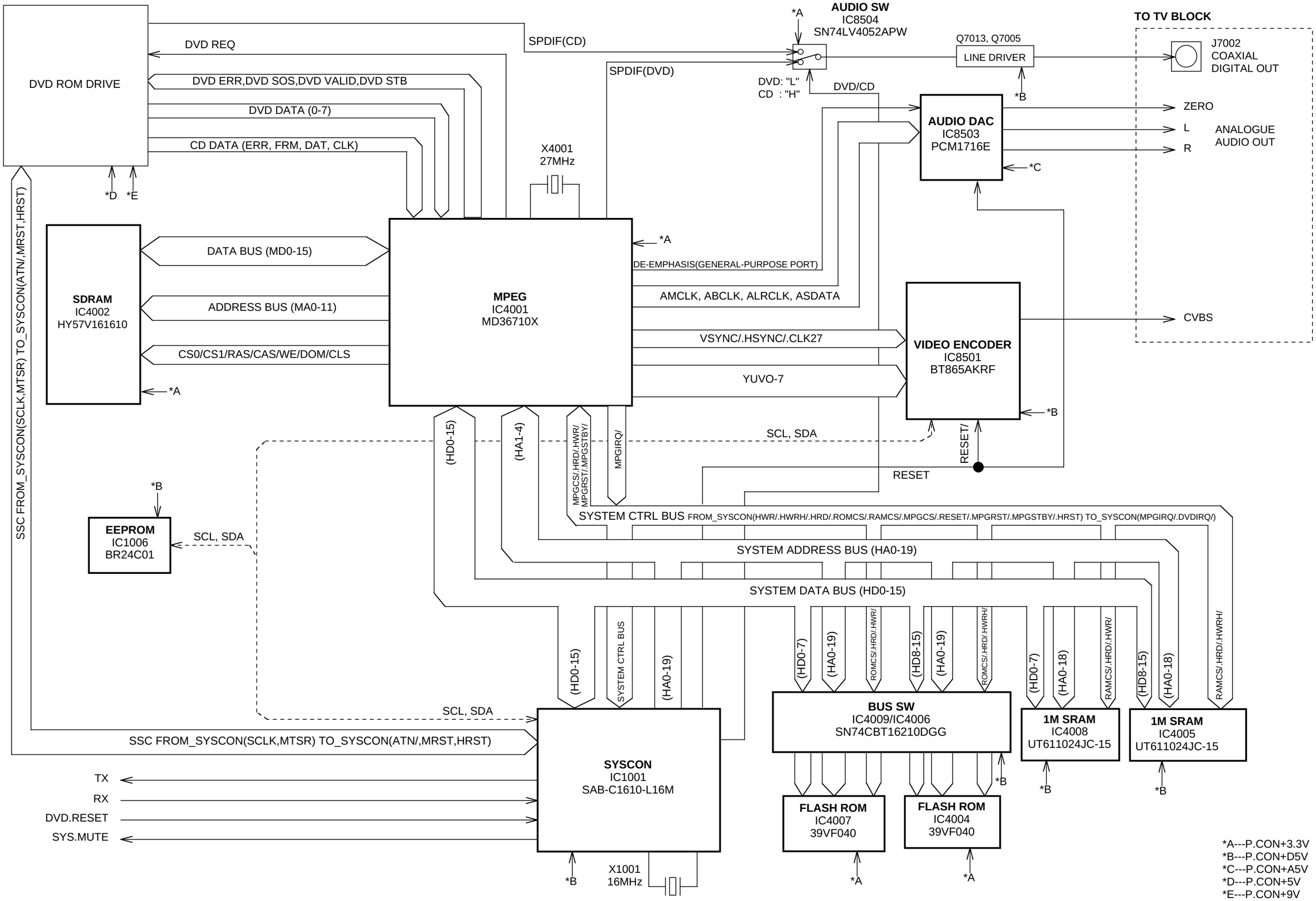
FOCUS VOLUME
SCREEN VOLUME

MAIN PCB

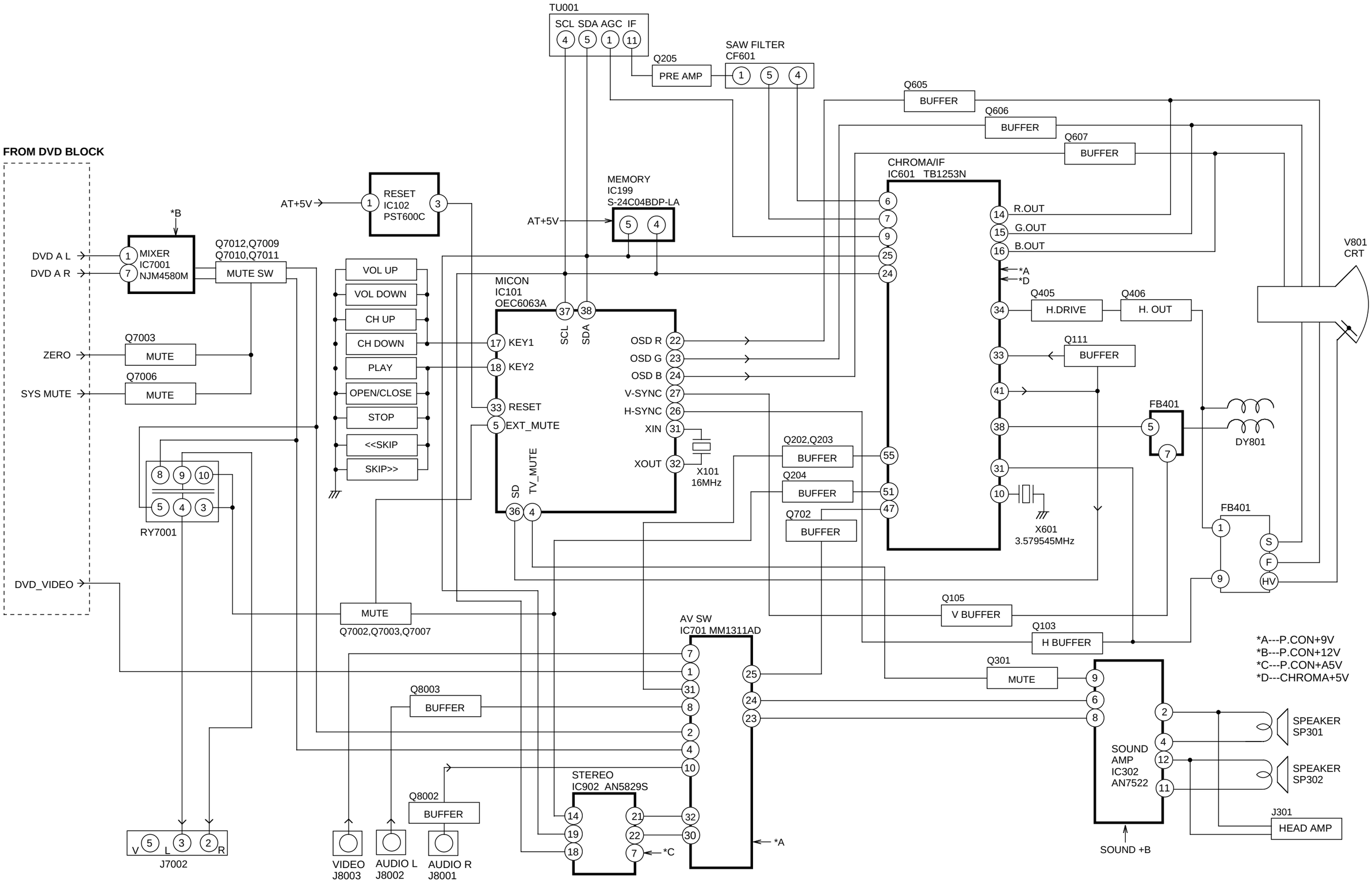


CRT PCB

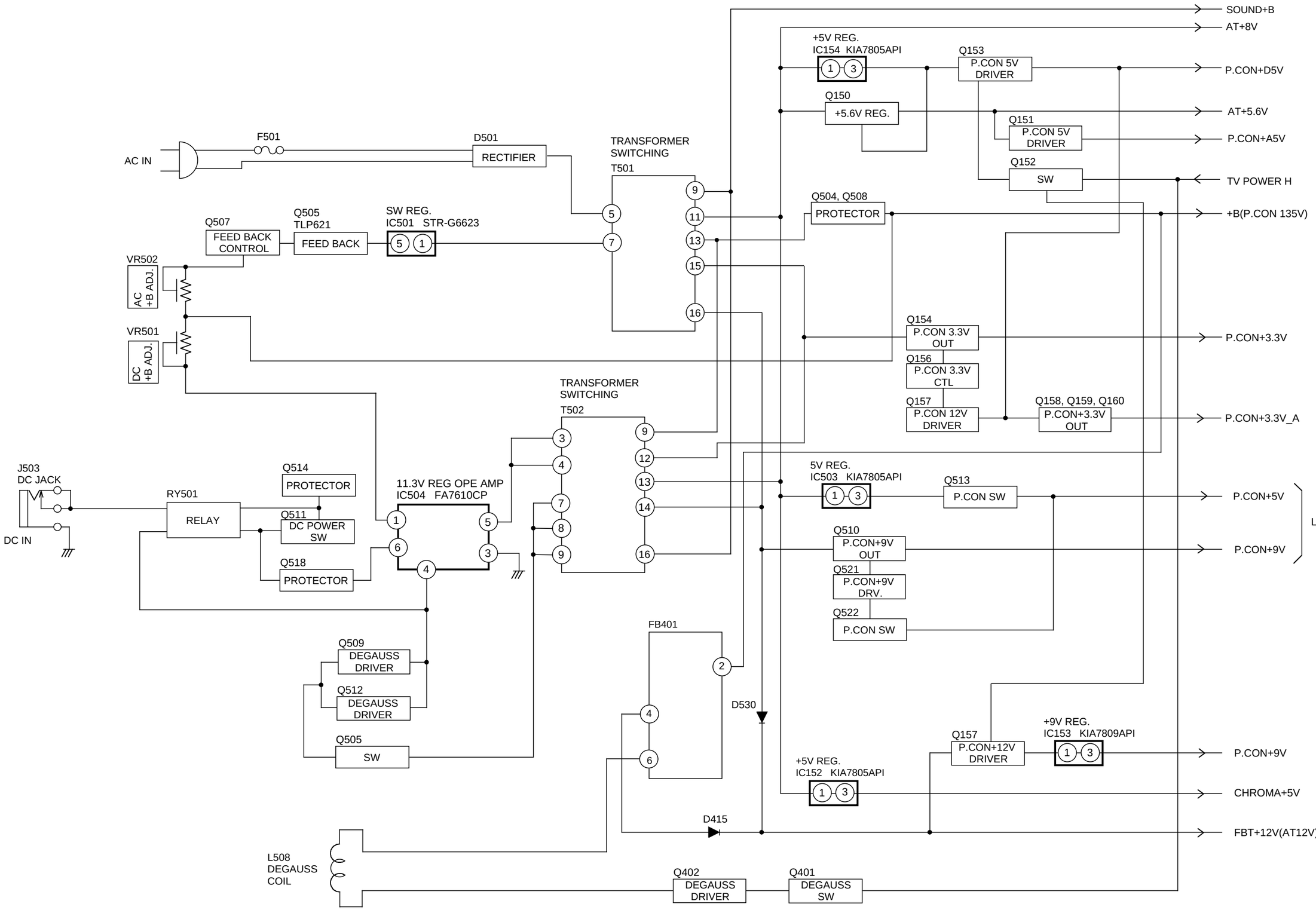
DVD BLOCK DIAGRAM



TV BLOCK DIAGRAM



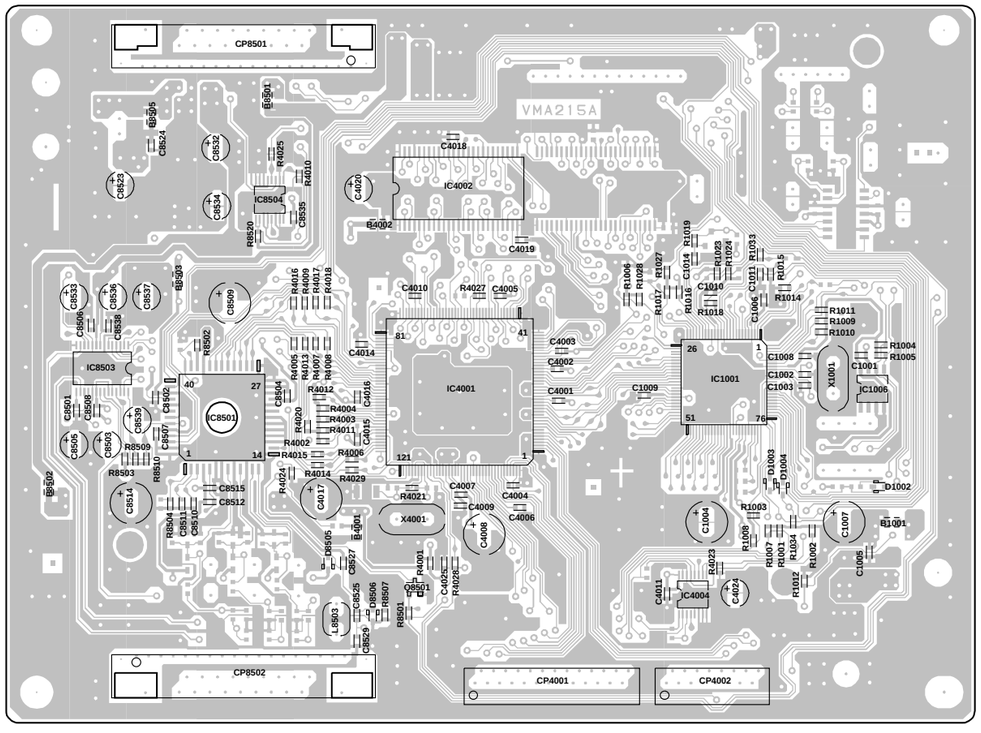
POWER BLOCK DIAGRAM



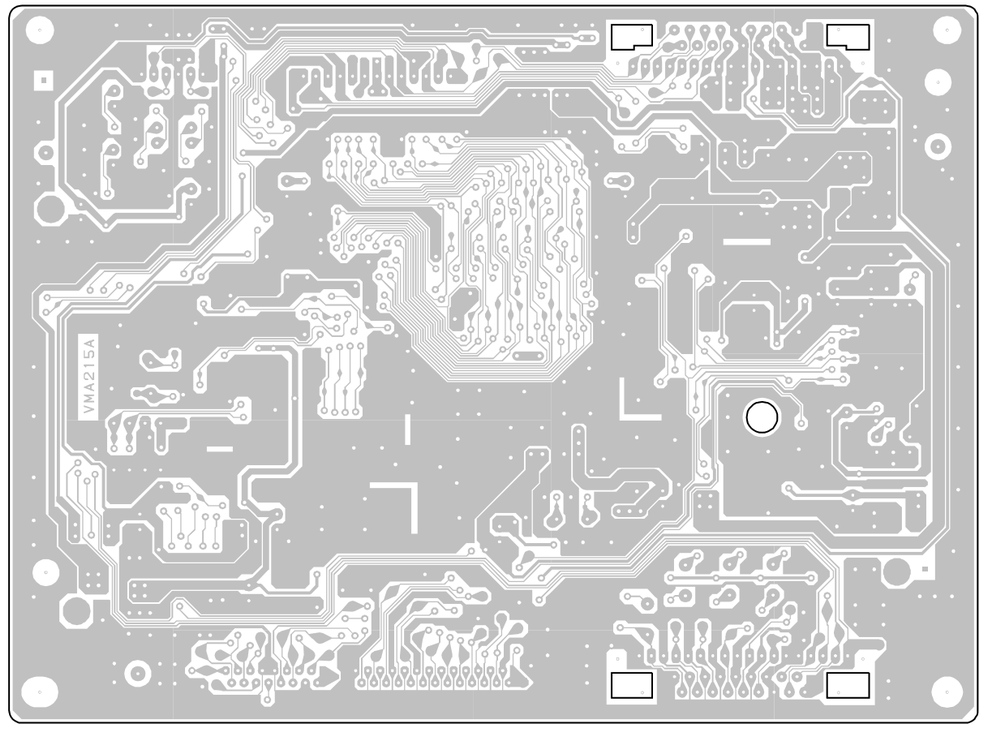
PRINTED CIRCUIT BOARDS

SYSCON

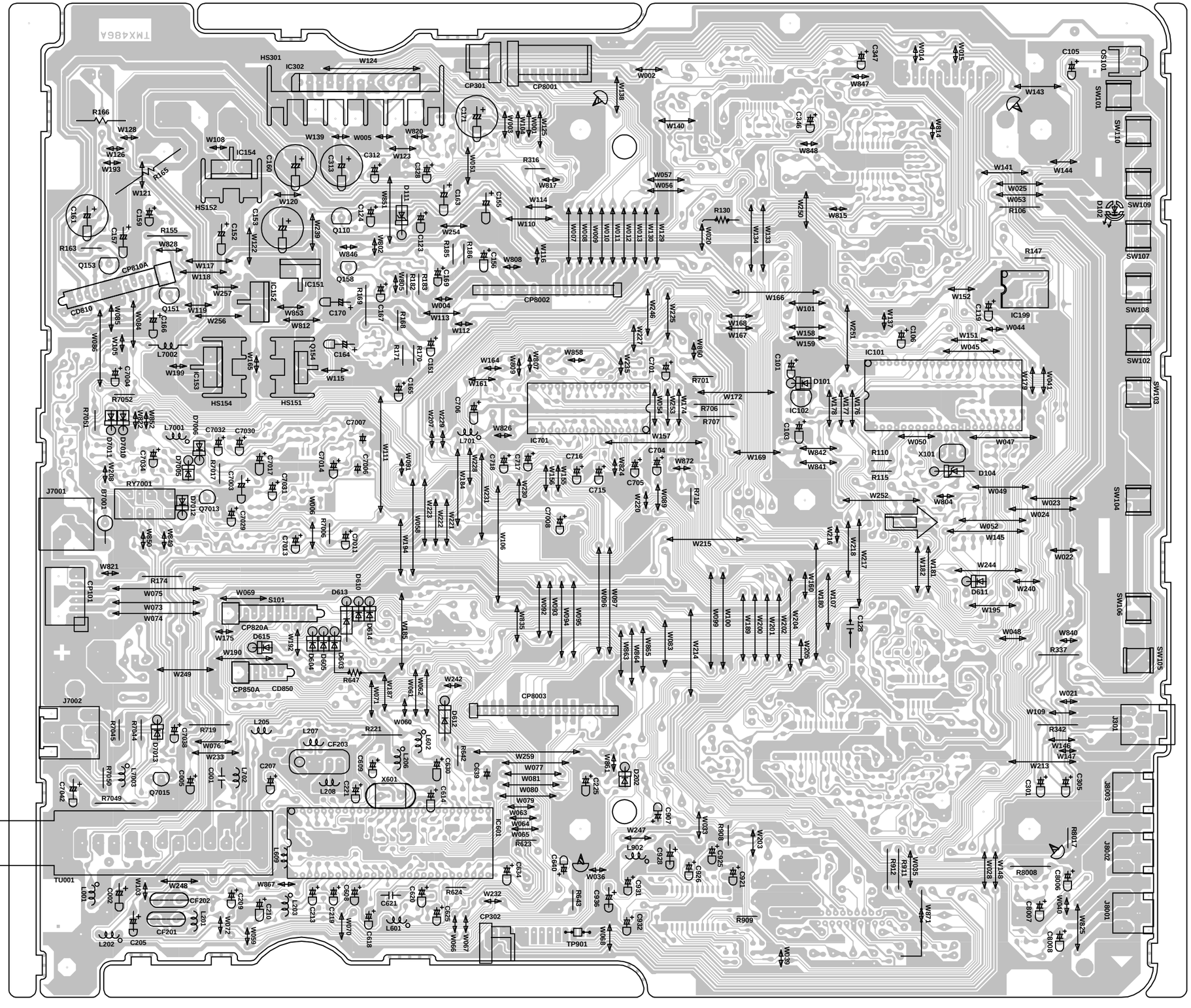
(TOP SIDE)



(BOTTOM SIDE)



RPINTED CIRCUIT BOARDS
AV (INSERTED PARTS)
SOLDER SIDE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CP301
CP8001
W002
W138
W140
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C347
W014
W015
C105
OS101
SW101
SW110
W143
C346
W848
W814
W141
W144
W025
W053
R106
D102
SW109
SW107
SW108
SW102
SW103
R147
IC199
W044
W152
C119
W151
W045
C106
W127
W251
IC101
D101
W041
W179
W178
W177
W176
W174
W253
W154
W172
R706
R707
R701
W157
W169
C101
C103
W842
W841
W050
X101
D104
W049
W023
W024
W052
W145
W022
W804
R110
R115
W252
W244
D611
W240
W195
W048
W840
R337
SW105
SW104
SW106
W021
W109
R342
W146
W147
W213
C301
C305
J8003
J8002
J8001
R8017
R8008
C8006
C8007
C8008
W040
W825
W871
W039
W028
W148
R911
R912
W035
R908
W203
C928
C925
C926
C921
C931
C932
C936
R909
W036
W068
TP901
CP302
W867
W248
TU001
L001
C002
CF202
CF201
L201
L202
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C206
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C620
C621
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W088
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C630
C639
C609
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W084
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HS154
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HS151
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C170
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IC152
IC151
W257
W846
Q158
W802
W851
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C156
C155
C163
C169
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W166
W101
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W167
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W010
W009
W008
W007
W057
W056
W817
W114
W110
W116
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W140
W002
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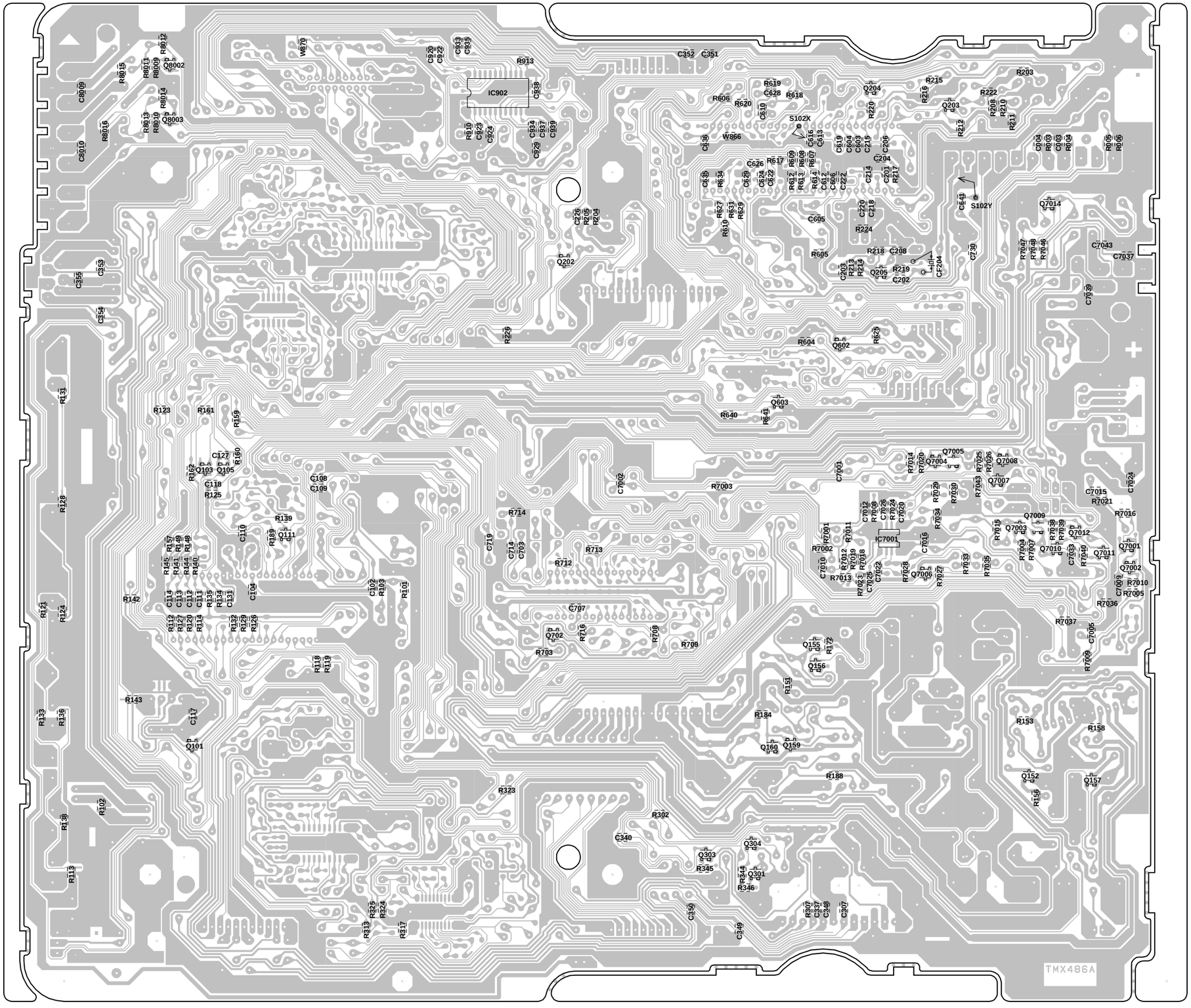
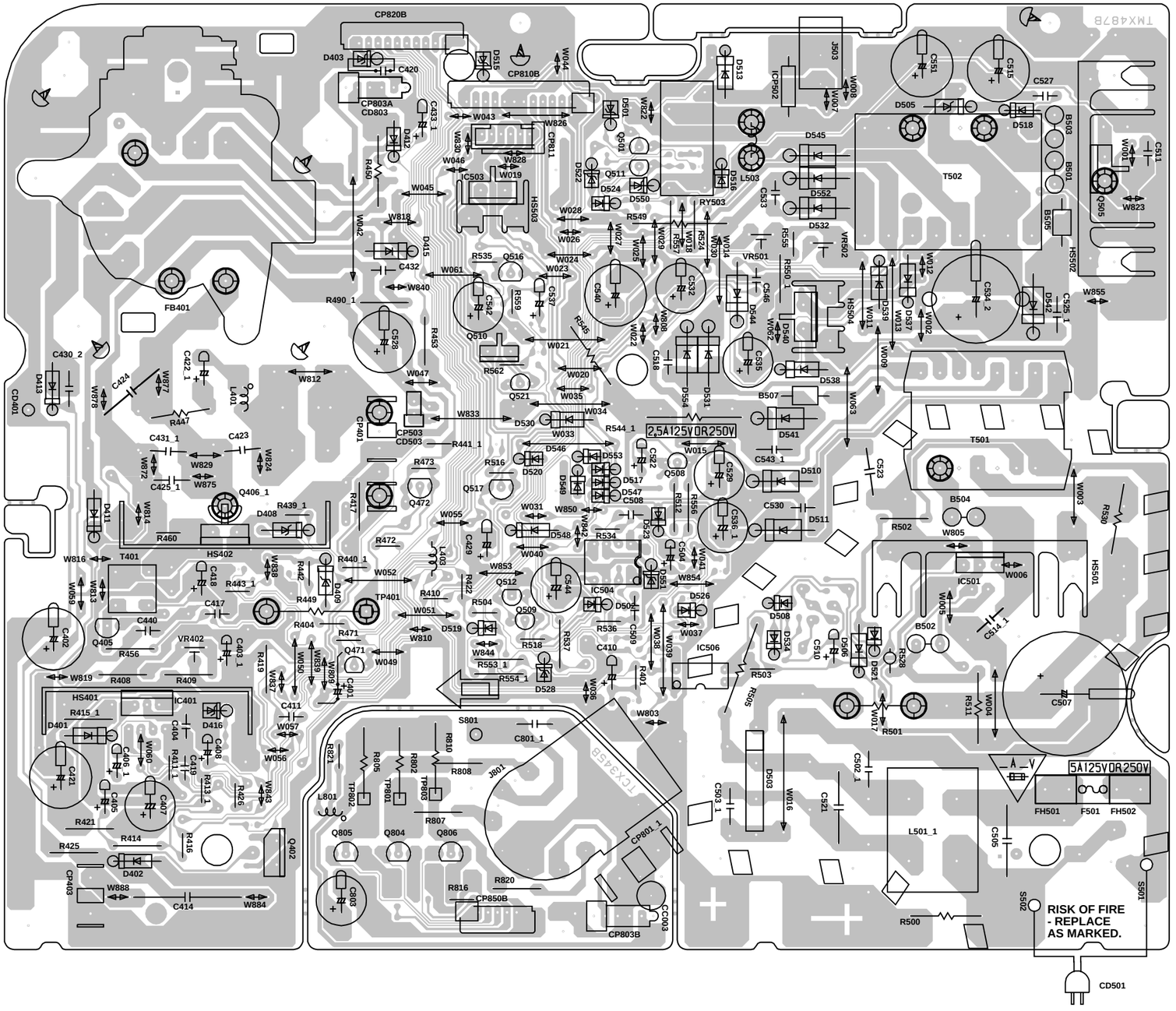
W139
W005
W820
W123

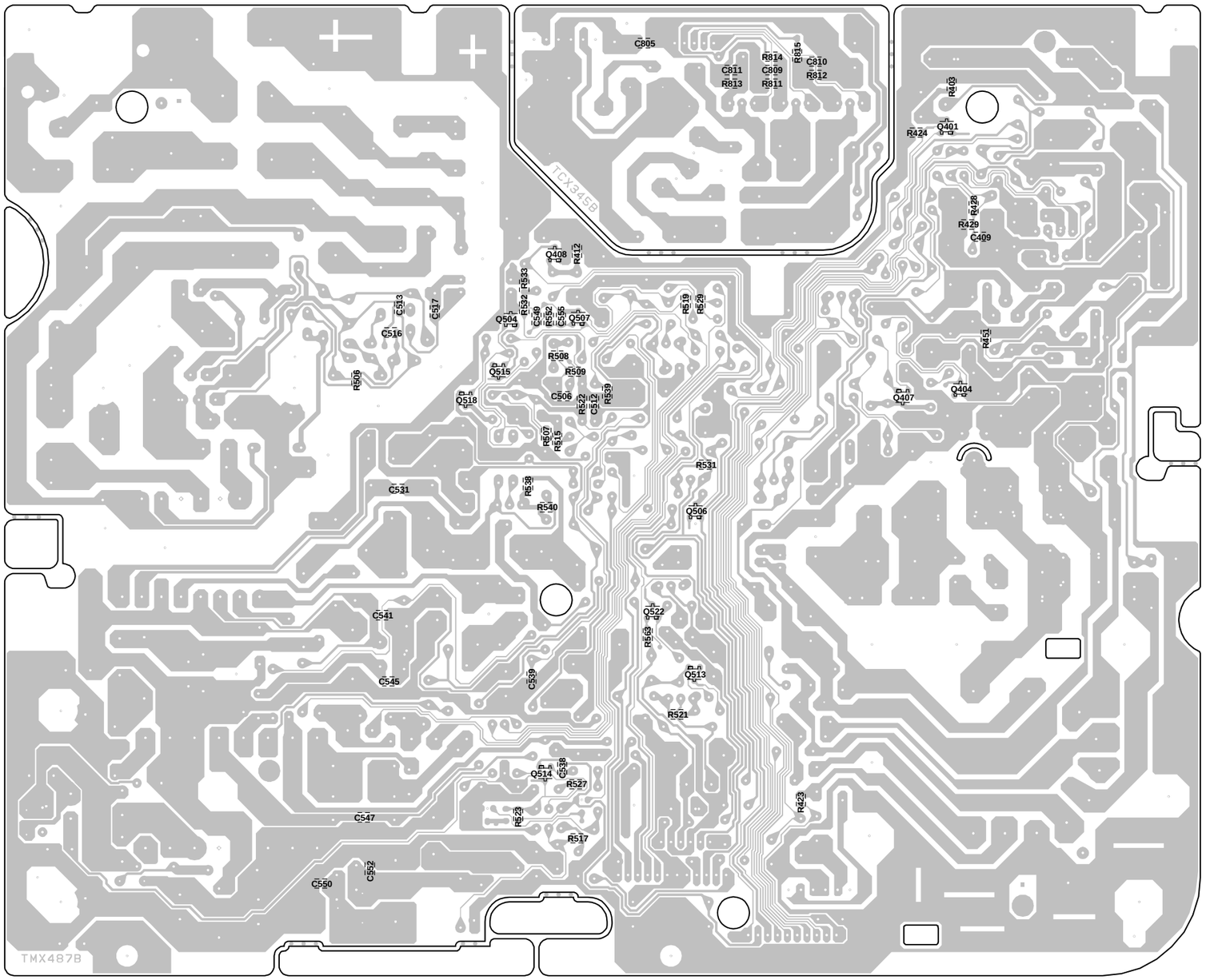
RPINTED CIRCUIT BOARDS
AV (CHIP MOUNTED PARTS)
SOLDER SIDE



RPINTED CIRCUIT BOARDS
MAIN/CRT (INSERTED PARTS)
SOLDER SIDE



RPINTED CIRCUIT BOARDS
MAIN/CRT (CHIP MOUNTED PARTS)
SOLDER SIDE



MPEG SCHEMATIC DIAGRAM (SYSCON PCB)

FROM/TO LOADER

CD4001 — CP4001 IMSA-9615S-26C-P — 2S0Q0901

1	SDT7	DVDDAT7
2	GND	
3	SDT6	DVDDAT6
4	GND	
5	SDT5	DVDDAT5
6	GND	
7	SDT4	DVDDAT4
8	GND	
9	SDT3	DVDDAT3
10	GND	
11	SDT2	DVDDAT2
12	GND	
13	SDT1	DVDDAT1
14	GND	
15	SDT0	DVDDAT0
16	GND	
17	DREQ	DVDREQ
18	GND	
19	DACK	DVDVALID
20	GND	
21	DERR	DVDERR
22	GND	
23	DBGN	DVDSOS
24	GND	
25	DCLK	DVDSTB
26	GND	

CD4002 — CP4002 IMSA-9615S-16C-P — 2S0G0901

1	HD INT	NC
2	HRST	HRST
3	GND	
4	TXD	
5	RXD	
6	SCLK	SSC-SCLK
7	RDY HIF	SSC-ATN
8	GND	
9	16M	
10	GND	
11	EMPH	NC
12	C2PO	
13	LRCK	
14	BCK	
15	CD-DATA	
16	SPDIF	

FROM/TO SYSCON

HRST, SSC-MRST, SSC-MTSR, SSC-SCLK, SSC-ATN, HD7, HD6, HD5, HD4, HD3, HD2, HD1, HD0, HA4, HA3, HA2, HA1, HWR#, MPGCS#, HRD#, MPGIRQ#, MPGRST, MPGSTBY, HRDY

R4025 100

C4011 0.1 F

C4024 33 6.3V 47 KA

DIGITAL AUDIO SW IC4004 SN74LV4052APW

16	15	14	13	12	11	10	9	
VCC	X2	X1	X	X0	X3	A	B	
3.2	0	0	0.7	0.7	0.7	NC	0	0
1	2	3	4	5	6	7	8	
Y0	Y2	Y	Y3	Y1	Inhibit	VEE	GND	
0.1	0	0.1	0.5 NC	0	0	0	0	

R4023 4.7K 10K

C4001 0.1 F

C4002 0.1 F

C4003 0.1 F

C4004 0.1 F

C4005 0.1 F

C4006 0.1 F

C4007 0.001 B

C4008 6.3V 220 KA

C4009 0.047 B

C4010 0.1 F

C4014 0.1 F

C4025 0.1 F

R4001 2.2

X4001 27MHz R4021 1M

R4027 100

MPGRST, MPGSTBY

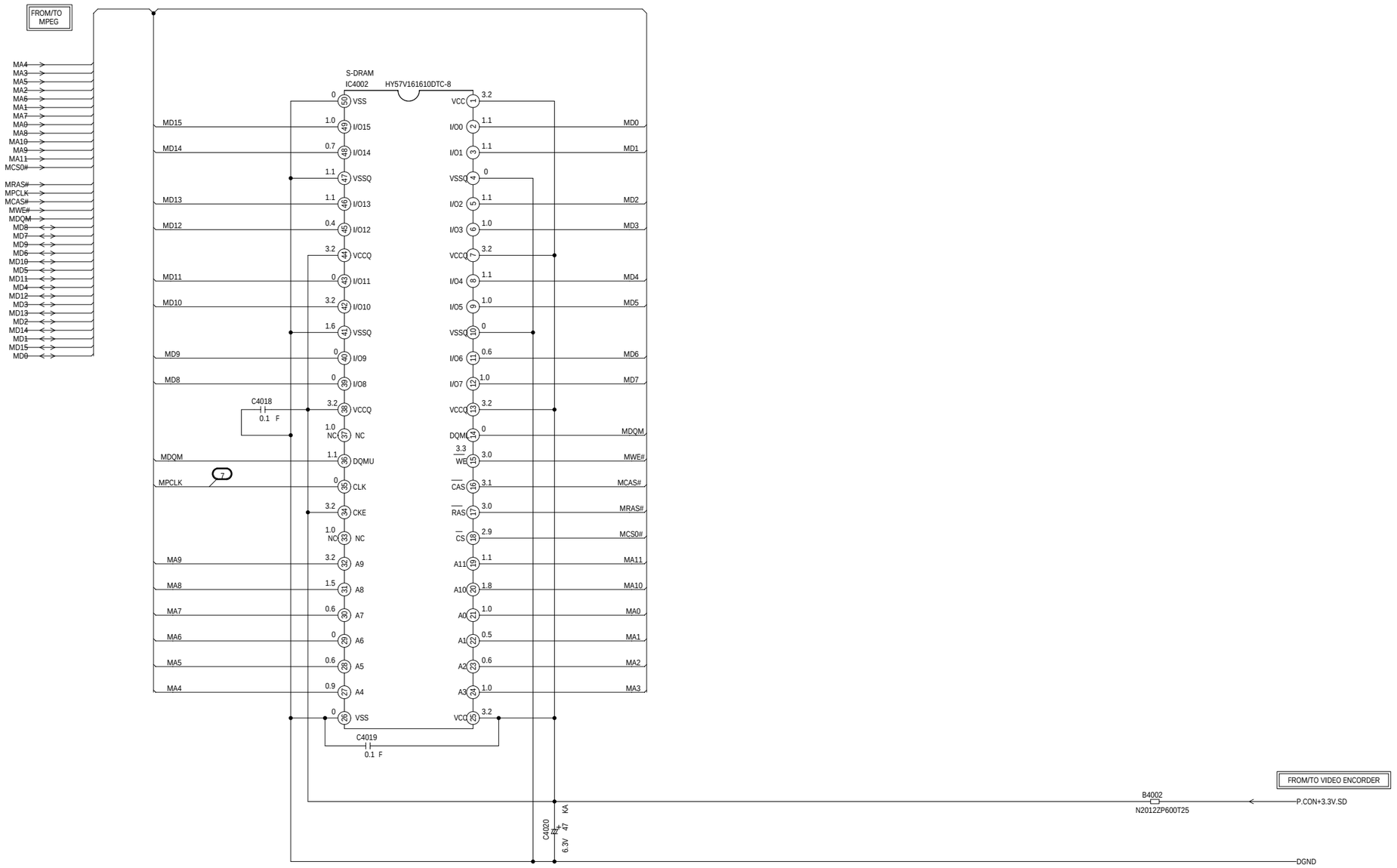
DVDDAT7, DVDDAT6, DVDDAT5, DVDDAT4, DVDDAT3, DVDDAT2, DVDDAT1, DVDDAT0, DVDREQ, DVDSTB, DVDVALID, DVDSOS, DVDERR

MPEG IC4001 MD36710X

| | | | | | | | |

SDRAM SCHEMATIC DIAGRAM

(SYSCON PCB)



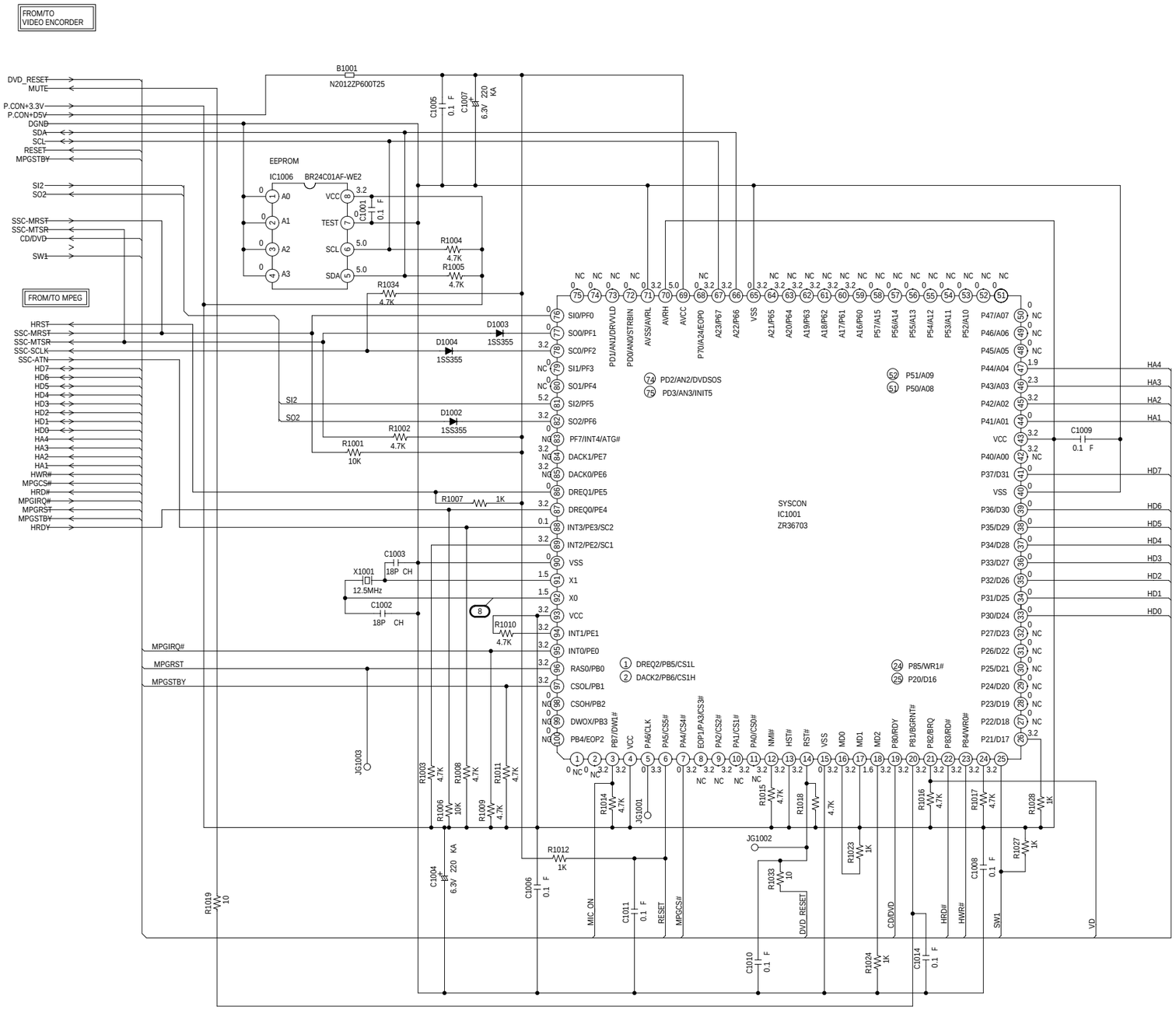
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

PCB010
VMA215

SYSCON SCHEMATIC DIAGRAM

(SYSCON PCB)



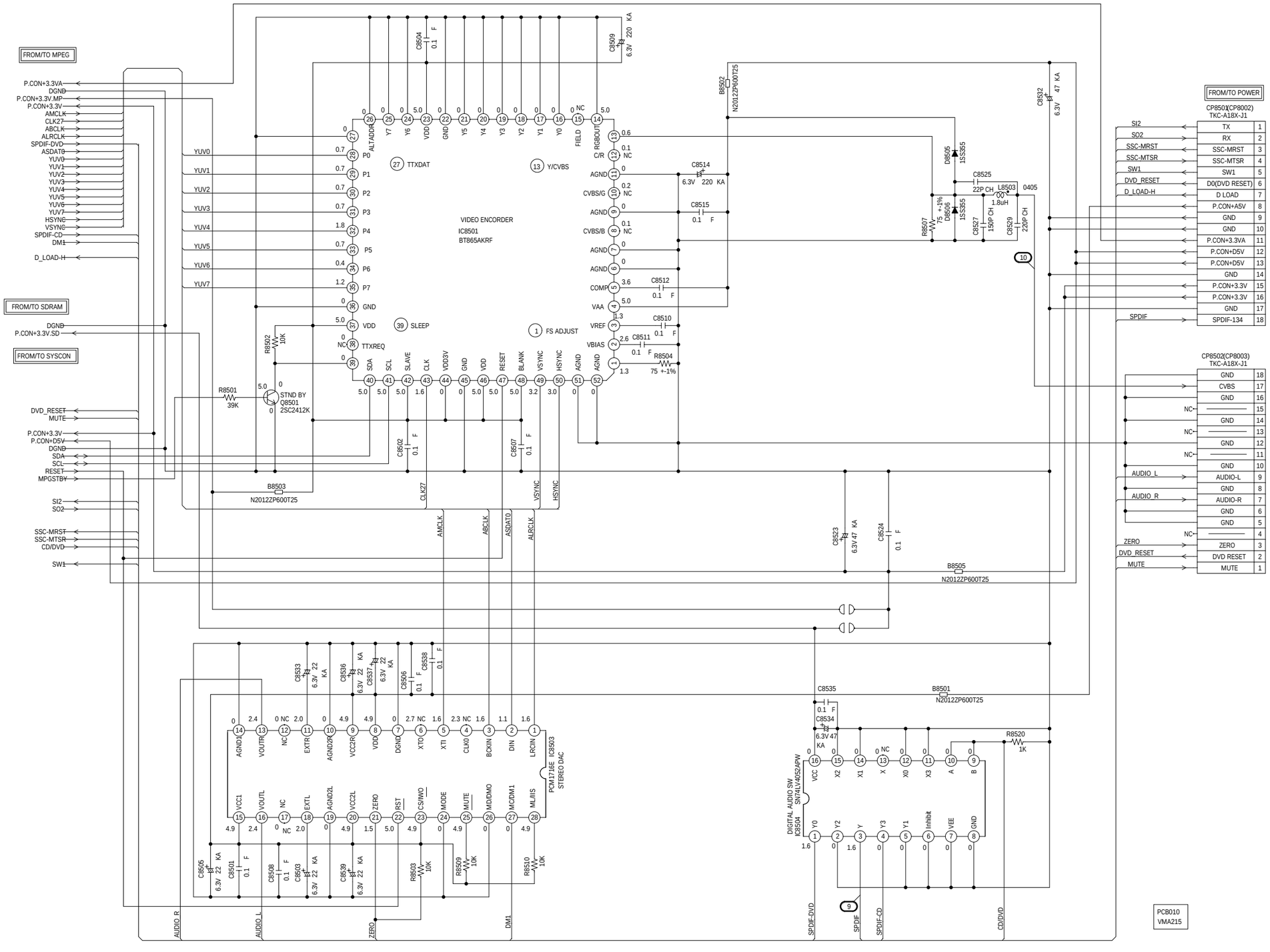
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

PCB010
VMA215

VIDEO ENCORDER SCHEMATIC DIAGRAM

(SYSCON PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

POWER SCHEMATIC DIAGRAM

(AV PCB)

FROM/TO TV POWER

CP8104(CP810B) B2013H02-12P

1	AT+8V
2	SOUND GND
3	SOUND+B
4	AT+6V
5	X-RAY TEST
6	GND
7	GND
8	GND
9	FBT+8V
10	P.CON+12V
11	CHROMA+5V
12	NC

L010 W5T29X7.5X19

FROM/TO DEFLECTION

CP8204(CP820B) B2013H02-10P

1	H.OUT
2	AT+30V
3	GND
4	NC
5	V.OUT
6	ACL
7	VD
8	POWER FAIL
9	TV POWER ON H
10	AFC

L005 W5T29X7.5X19

CP8001 173979-9

1	D LOAD
2	D0(DVD RESET)
3	SW1
4	SSC-MTSR
5	SSC-MRST
6	RX
7	TX
8	VCC
9	GND

FROM/TO VIDEO ENCORDER

CP8002(CP8501) 9210B-1-182713-T

1	TX
2	RX
3	SSC-MRST
4	SSC-MTSR
5	SW1
6	D0(DVD RESET)
7	D LOAD
8	P.CON+A5V
9	GND
10	GND
11	P.CON+3.3VA
12	P.CON+D5V
13	P.CON+D5V
14	GND
15	P.CON+3.3V
16	P.CON+3.3V
17	GND
18	SPDIF-134

CP8003(CP8502) 9210B-1-182713-T

18	GND
17	CVBS
16	GND
15	NC
14	GND
13	NC
12	GND
11	NC
10	GND
9	AUDIO-L
8	GND
7	AUDIO-R
6	GND
5	GND
4	NC
3	ZERO
2	DVD RESET
1	MUTE

AT+8V DRIVER Q151 2SB1131

FBT+8V DRIVER Q153 2SB926

P.ON SW Q152 2SC2412K

P.ON SW Q157 DTC114EKA

+5V REG IC151 KIA7805API

+5V REG IC152 KIA7805API

+9V REG IC153 KIA7809API

+5V REG IC154 KIA7805API

3.3V OUT Q154 2SB1143

3.3V CTL Q155 2SC2412K

3.3V CTL Q156 2SC2412K

3.3V CTL Q159 2SC2412K

3.3V CTL Q160 2SC2412K

Q158 2SB698

+5.6V REG Q110 2SD863

HS151 76WAA0157

HS152 76WAA0157

HS154 76WAA0157

FROM/TO SOUND AMP

SOUND_GND

SOUND+B

GND

FROM/TO STEREO

GND

P.CON+A5V

FROM/TO AV SW

GND

P.CON+9V

DVD_VIDEO

FROM/TO VIF/SIF/CHROMA

V.OUT

AFC

H.OUT

ACL

GND

CHROMA+5V

P.CON+9V

FROM/TO MICON/TUNER

POWER_ON_H

DVD_RESET

P.FAIL/X-RAY_IN

GND

AT+30V

CHROMA+5V

RX

TX

VD

AFC

AT+5V

X-RAY_TEST

FROM/TO I/O

P.CON+9V

AT+9V

P.CON+D5V

SPDIF-134

AT+5V

P.CON+12V

GND

ZERO

SYS_MUTE

DVD_AUDIO_L

DVD_AUDIO_R

PCB250 TMX486

CAUTION: DIGITAL TRANSISTOR

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

MICON /TUNER SCHEMATIC DIAGRAM

(AV PCB)

TU001 TECC1040PG32D

CP101 TKC-M06X-A1

IC102 PST600C

IC101 MICON OEC6063A

X101 CSTLS16M0X53-A0

OS101 PIC-28143SY-2

V-BUFFER Q105 2SC2412K

H-BUFFER Q103 2SC2412K

BUFFER Q111 2SC2412K

LED ON SW Q101 DTC124EKA

POWER ON LED D102 SLP-9118C-51H-S

MEMORY IC199 S-24C08ADPA-01

POWER SW101 · OPEN SW102 · STOP SW103 · PLAY SW104 · SKIP>> SW105 · SKIP<< SW106 · CH DOWN SW107 · CH UP SW108 · VOL UP SW109 · VOL DOWN SW110

FROM/TO I/O: TV/DVD, EXT_MUTE

FROM/TO AV SW: SWD_V.OUT, SDA, SCL

FROM/TO STEREO: SDA, SCL

FROM/TO VIF/SIF/CHROMA: VD, OSD_Y, OSD_B, OSD_G, OSD_R, TUNER_AGC, TUNER_IF, SDA, SCL, AFT

FROM/TO SOUND AMP: POWER_ON_H, A_MUTE, VOL_PWM

FROM/TO POWER: GND, AT+30V, CHROMA+5V, POWER_ON_H, DVD_RESET, P.FAIL/X-RAY_IN, RX, TX, VD, AFC, AT+5V, X-RAY_TEST

SYNC_OUT, POWER_ON_H

PCB250 TMX486

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

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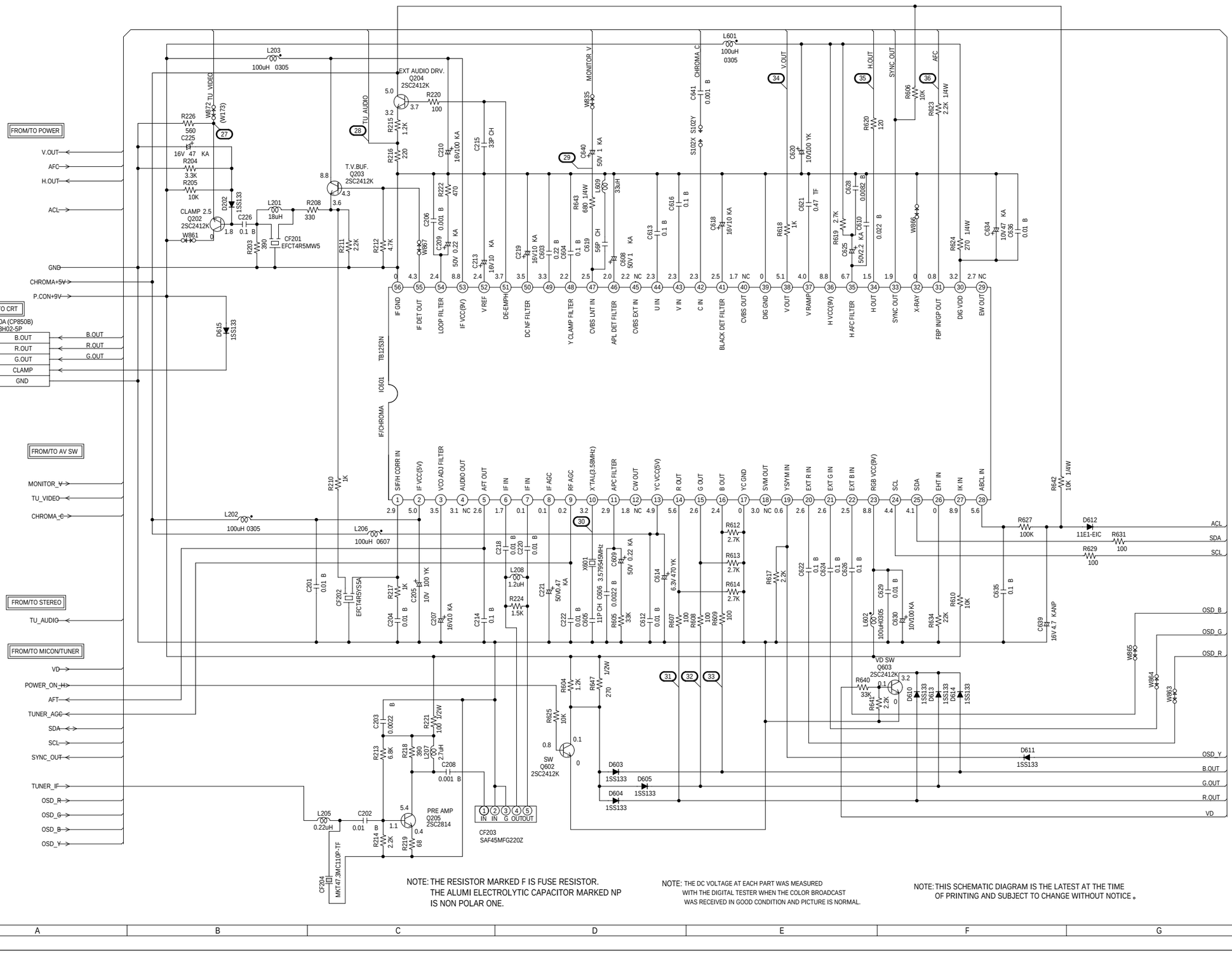
CAUTION: DIGITAL TRANSISTOR

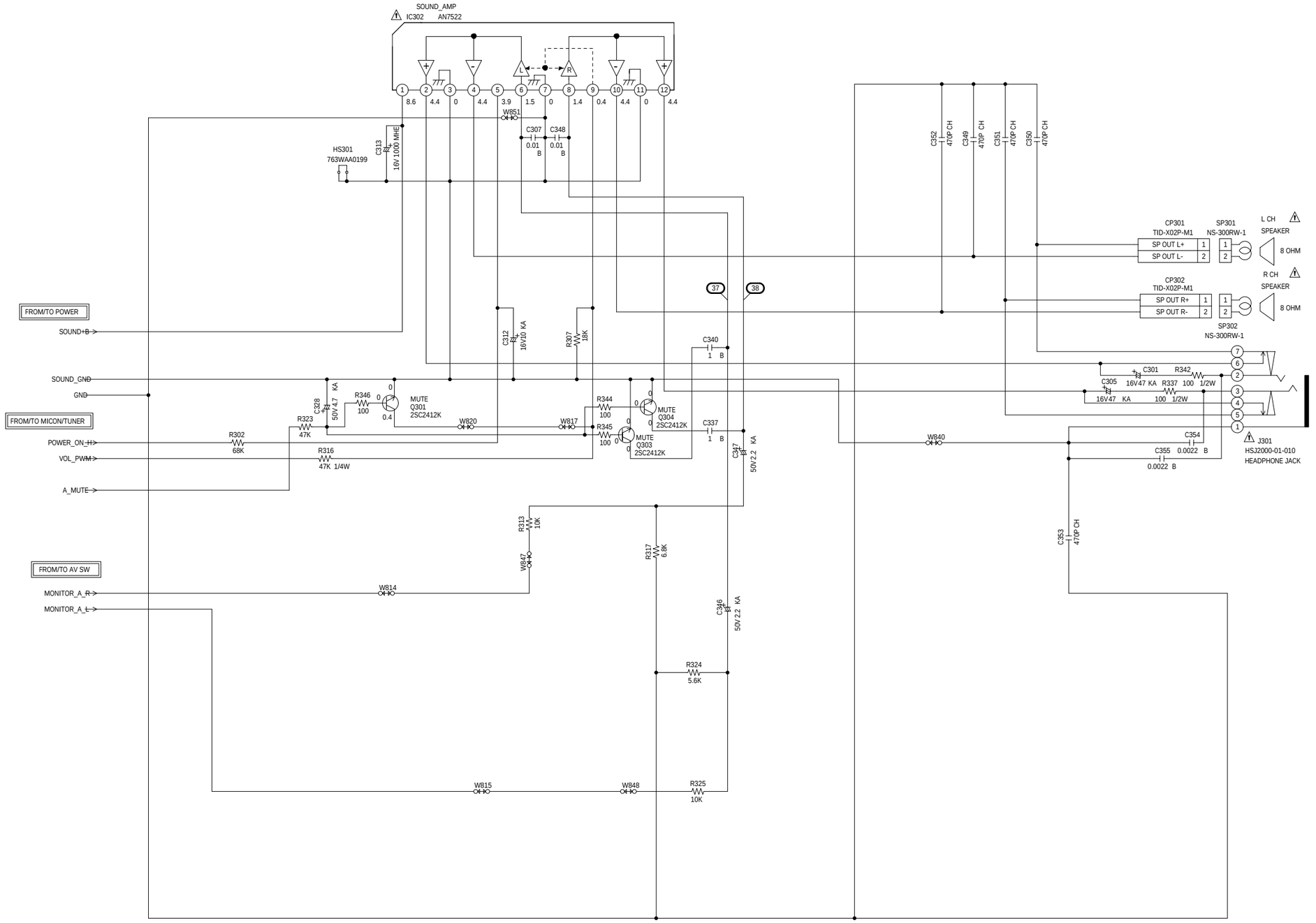
VIF/SIF/CHROMA SCHEMATIC DIAGRAM

(AV PCB)



SOUND AMP SCHEMATIC DIAGRAM

(AV PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

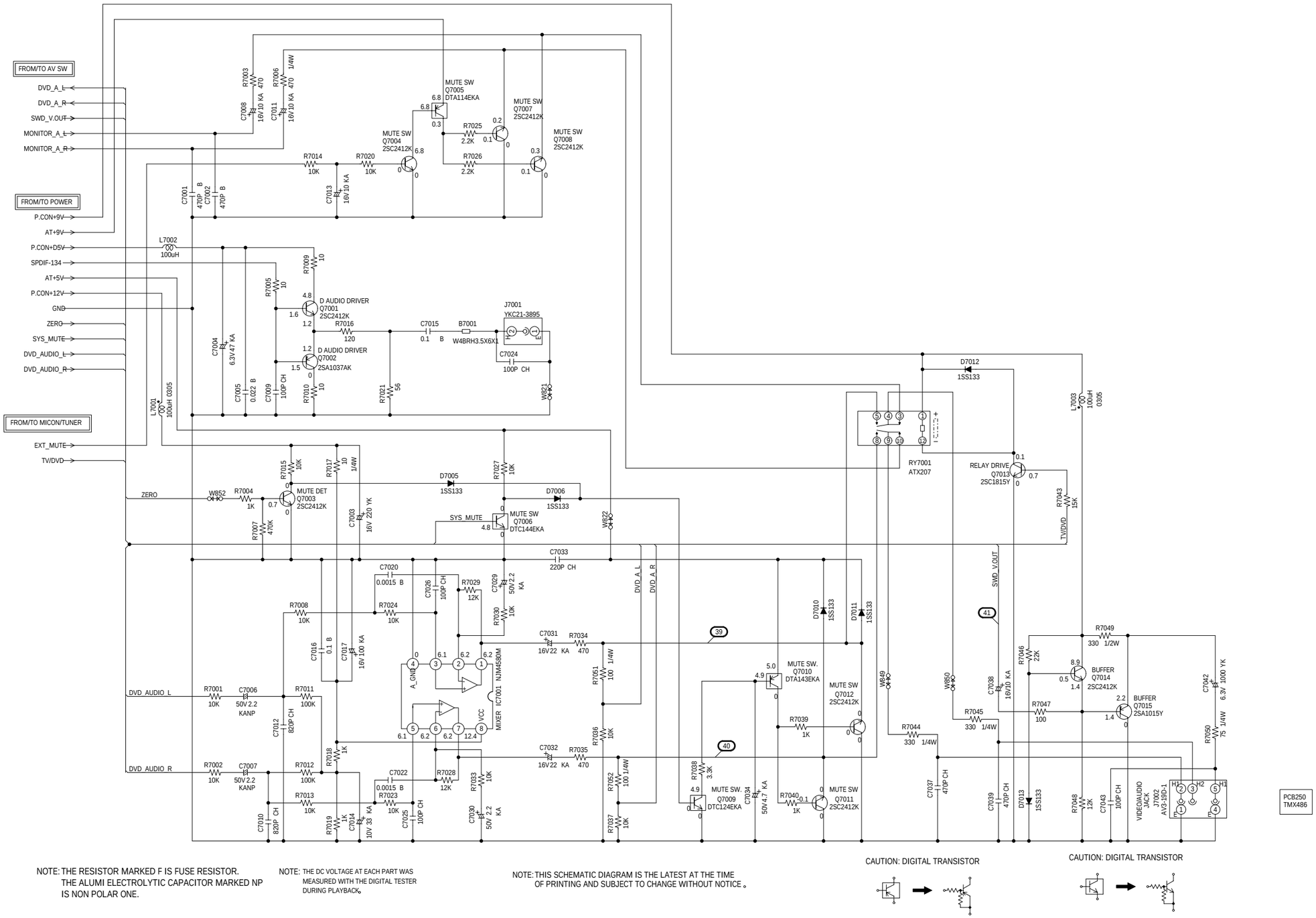
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

IN /OUT SCHEMATIC DIAGRAM

(AV PCB)



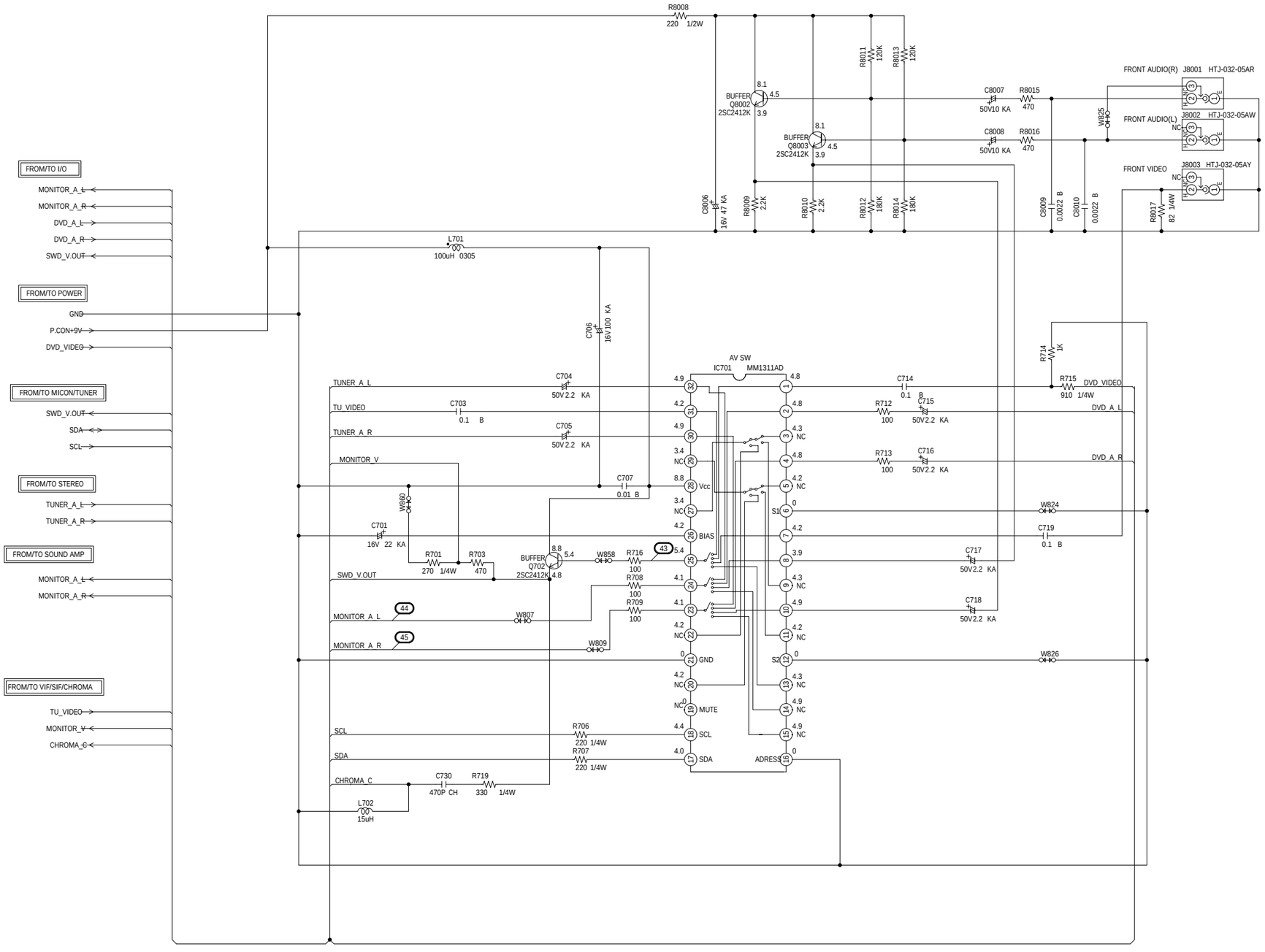
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

AV SW SCHEMATIC DIAGRAM

(AV PCB)

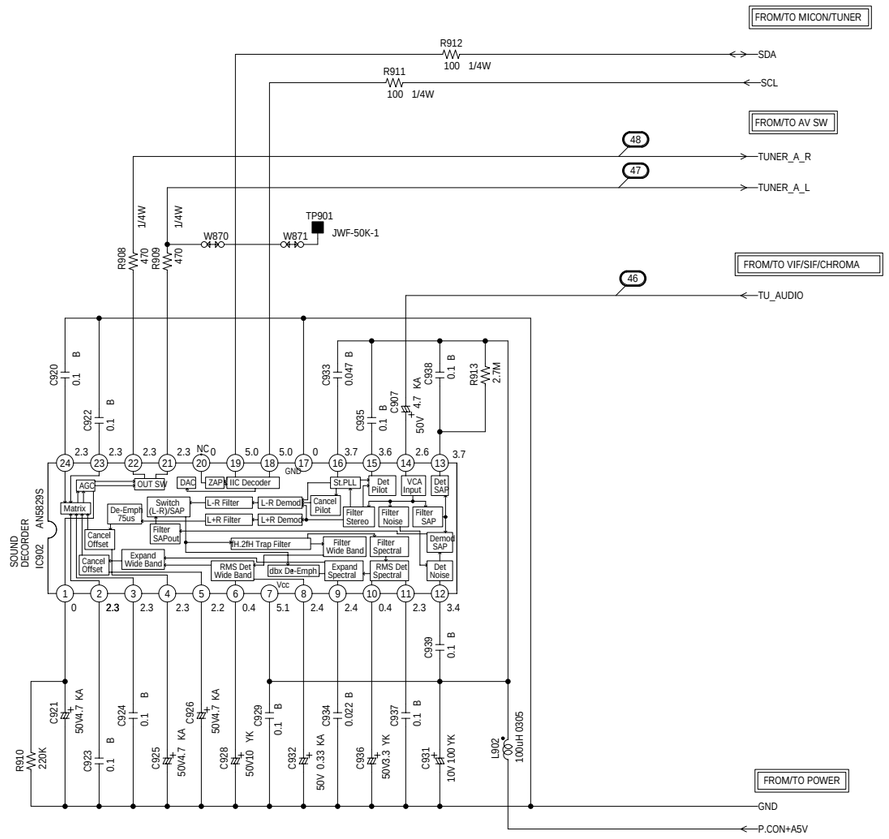


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

STEREO SCHEMATIC DIAGRAM

(AV PCB)



PCB250
TMX486

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

TV POWER SCHEMATIC DIAGRAM

(MAIN PCB)

CAUTION: DIGITAL TRANSISTOR

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP
IS NON POLAR ONE.

DC JACK J503 HEC0824-010010

FROM/TO DEFLECTION

AT+30V
FBT+12V
TV_POWER_H
POWER_FAIL
AT+8V
PROTECT
CHROMA+5V
X-RAY_TEST
+B

CP503 CD503 JM-2BK-61
RE-H022TD-1130

FROM/TO DVD UNIT

CP811(CD811) B6B-PH-K-S

P.CON+5V_D	1
GND	2
P.CON+5V_A	3
GND	4
P.CON+9V_A	5
GND	6

FROM/TO POWER

CP810B(CP810A) 52147-1210

AT+8V	1
SOUND GND	2
SOUND+B	3
AT+6V	4
X-RAY_TEST	5
GND	6
GND	7
GND	8
FBT+8V	9
P.CON+12V	10
CHROMA+5V	11
NC	12

5A 125V

10A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE5A 125V (F501), AND 10A 125V(ICP502).

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 5A 125V (F501), AND 10A 125V(ICP502).

CAUTION: ICP502 ARE MANUFACTURED BY LITTELFUSE INC.,TYPE 251.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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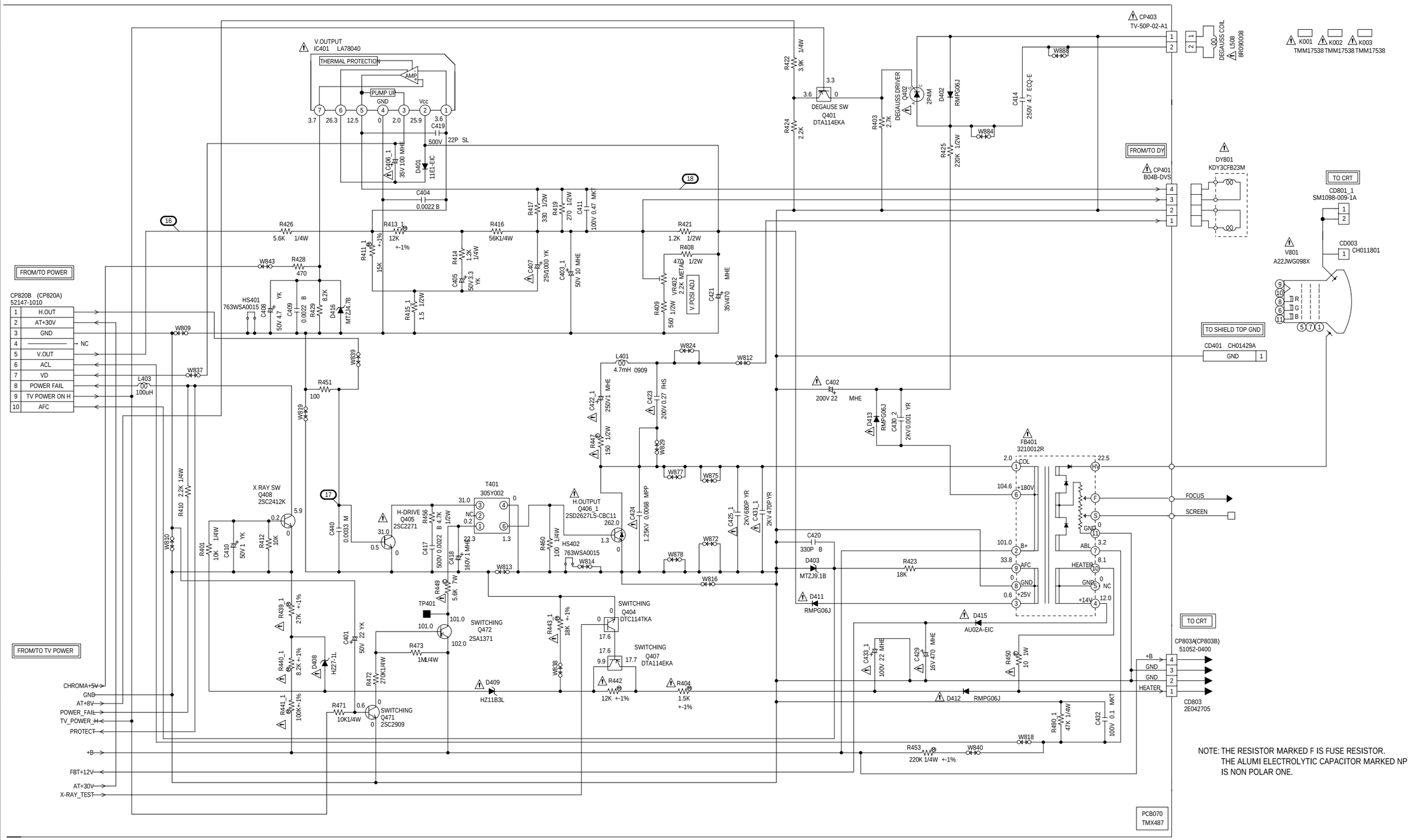
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

IS THE LIVE CONNECTION ⓜ CAUTION:

PCB070
TMX487

DEFLECTION SCHEMATIC DIAGRAM

(MAIN PCB)



NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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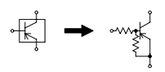
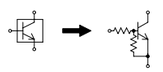
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

CAUTION: DIGITAL TRANSISTOR

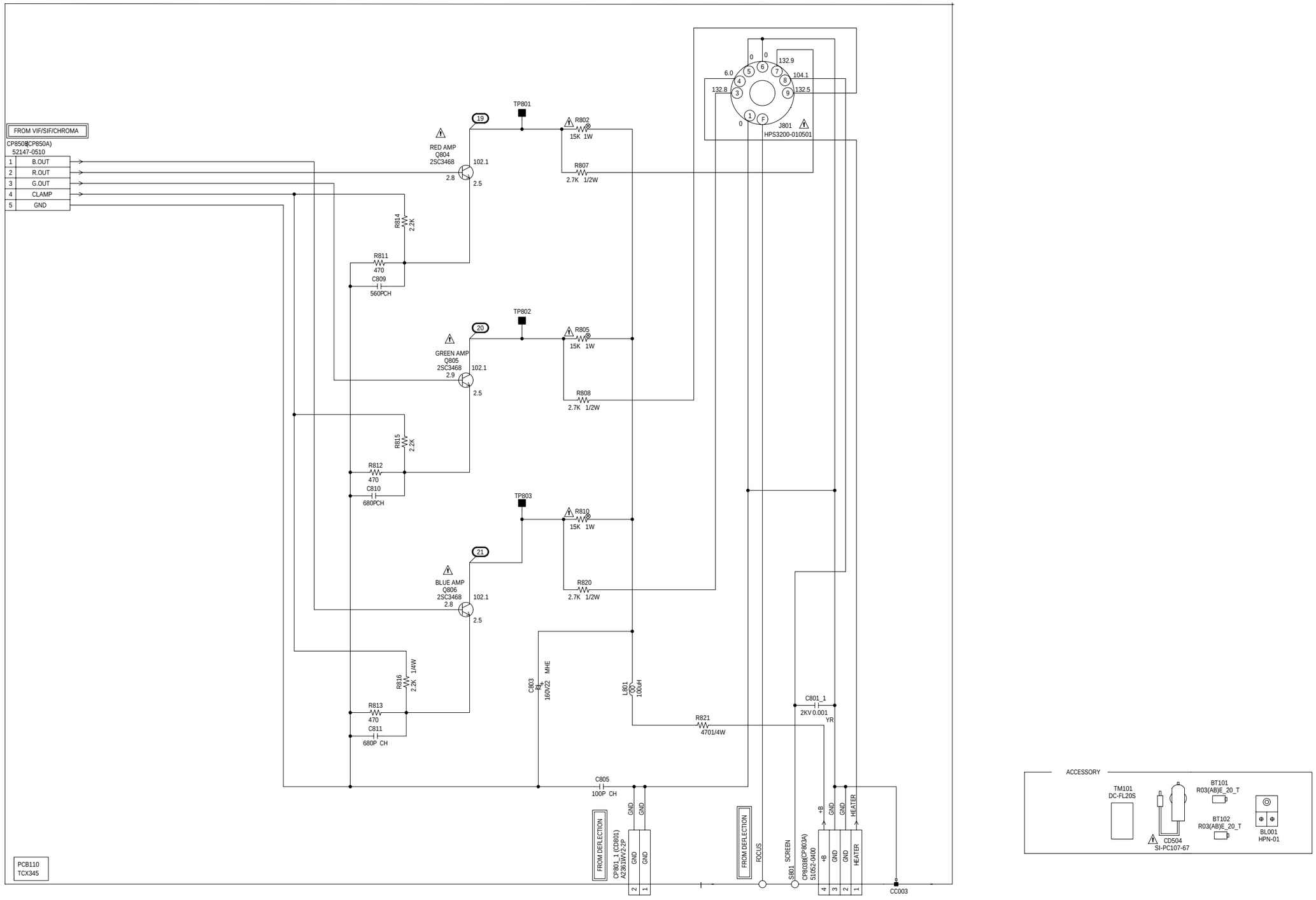


CAUTION: DIGITAL TRANSISTOR



CRT SCHEMATIC DIAGRAM

(CRT PCB)



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INTERCONNECTION DIAGRAM

COMMAND TRANSMITTER
TM101

TO OS101

HEADPHONE
J301

SPEAKER R
SP302
8_OHM

SPEAKER L
SP301
8_OHM

CP302
1	SP OUT R+
2	SP OUT R-

J8001 R
J8002 L
AUDIO IN

J8003
VIDEO IN

CP8001
1	D LOAD
2	D0(DVD RESET)
3	SW1
4	SSC-MTSR
5	SSC-MRST
6	RX
7	TX
8	VCC
9	GND

OS101
Vout
B+
GND

CP301
1	SP OUT L+
2	SP OUT L-

CP101
1	GND
2	I2C SCL
3	I2C SDA
4	I2C OFF
5	AGC
6	———

TO SHILED TOP GND

BLADE WIDE
WHITE
BLACK
S502
S501
CD501
120V 60Hz

CP403
DEGAUSS COIL
DEGAUSS COIL
LS68

DC JACK
J503

CD401 CH01429A
GND

CP503
+B(A)
+B(B)
CD503

MAIN PCB
PCB070
TMX487

CP810B
1	AT+8V
2	SOUND GND
3	SOUND+B
4	AT+6V
5	X-RAY TEST
6	GND
7	GND
8	GND
9	FBT+8V
10	P.CON+12V
11	CHROMA+5V
12	———

CD810

CP810A
AT+8V	1
SOUND GND	2
SOUND+B	3
AT+6V	4
X-RAY TEST	5
GND	6
GND	7
GND	8
FBT+8V	9
P.CON+12V	10
CHROMA+5V	11
———	12

CP820B
1	H.OUT
2	AT+30V
3	GND
4	———
5	V.OUT
6	ACL
7	VD
8	POWER FAIL
9	TV POWER ON H
10	AFC

CD820

CP820A
H.OUT	1
AT+30V	2
GND	3
———	4
V.OUT	5
ACL	6
VD	7
POWER FAIL	8
TV POWER ON H	9
AFC	10

CP850A
B.OUT	1
R.OUT	2
G.OUT	3
CLAMP	4
GND	5

AV PCB
PCB250
TMX486

SCREEN FOCUS

FBT
FB401

CP811
6	GND
5	P.CON+9V A
4	GND
3	P.CON+5V A
2	GND
1	P.CON+5V D

CP803A
1	HEATER
2	GND
3	GND
4	+B

CP401
4	
3	
2	
1	

CD803

S801 SCREEN FOCUS

CRT SOCKET
J801

CP803B
1	HEATER
2	GND
3	GND
4	+B

ANODE

V801
H.V
CRT

CP801
1	GND
2	GND

CP850B
1	B.OUT
2	R.OUT
3	G.OUT
4	CLAMP
5	GND

CRT PCB
PCB110
TCX345

CD801

CD850

CD811

CP8002
1	TX
2	RX
3	SSC-MRST
4	SSC-MTSR
5	SW1
6	D0(DVD RESET)
7	D LOAD
8	P.CON+A5V
9	GND
10	GND
11	P.CON+3.3VA
12	P.CON+D5V
13	P.CON+D5V
14	GND
15	P.CON+3.3V
16	P.CON+3.3V
17	GND
18	SPDIF-134

CP8501

SYSCON PCB
PCB010
VMA215

CP8003
18	GND
17	CVBS
16	GND
15	———
14	GND
13	———
12	GND
11	———
10	GND
9	AUDIO-L
8	GND
7	AUDIO-R
6	GND
5	GND
4	———
3	ZERO
2	DVD RESET
1	MUTE

CP8502

CP4001
1	SDT7
2	GND
3	SDT6
4	GND
5	SDT5
6	GND
7	SDT4
8	GND
9	SDT3
10	GND
11	SDT2
12	GND
13	SDT1
14	GND
15	SDT0
16	GND
17	DREQ
18	GND
19	DACK
20	GND
21	DERR
22	GND
23	DBGN
24	GND
25	DCLK
26	GND

CD4001

CP4002
1	———
2	HRST
3	GND
4	TxD
5	RxD
6	SCLK
7	RDY_HIF
8	GND
9	16M
10	GND
11	———
12	C2PO
13	LRCK
14	BCK
15	CD-DATA
16	SPDIF

CD4002

OPTICAL PICK-UP

LM
LOADING MOTOR

SPINDLE MOTOR

SLED MOTOR

DVD
DRIVE

TUNER
PACK
TU001
IF
NC
BTL
NC
BPL
NC
V.S
SDA
SCL
ADRES
NC
AGC

REAR A/V OUT JACK
J7002

COAXIAL DIGITAL AUDIO
J7001

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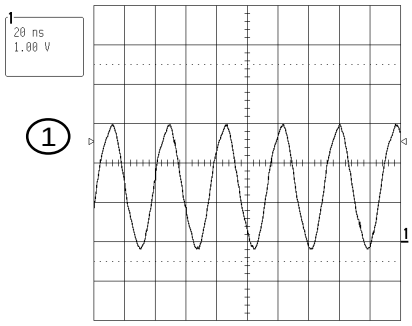
WAVEFORMS

MPEG



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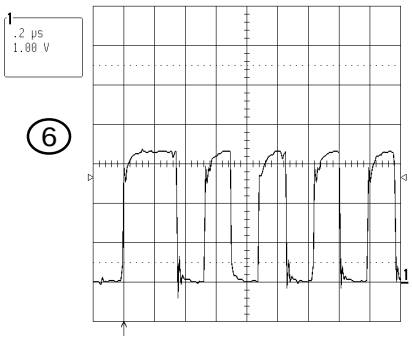
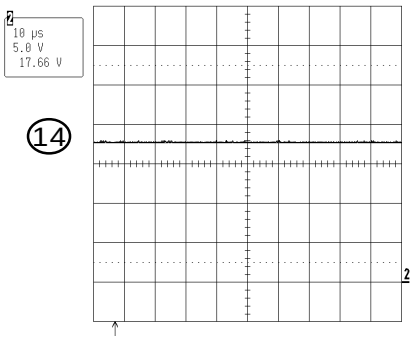


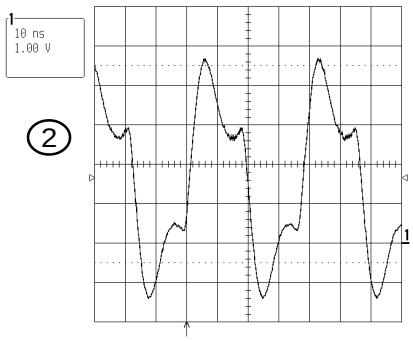
⑥

TV POWER



⑭

SDRAM



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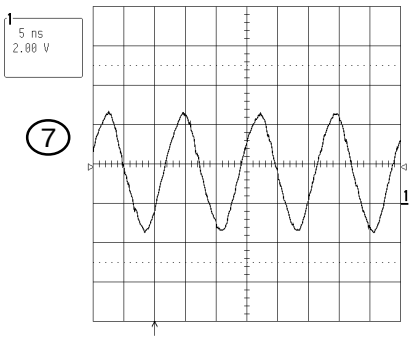

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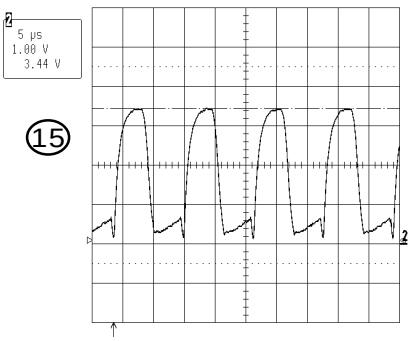
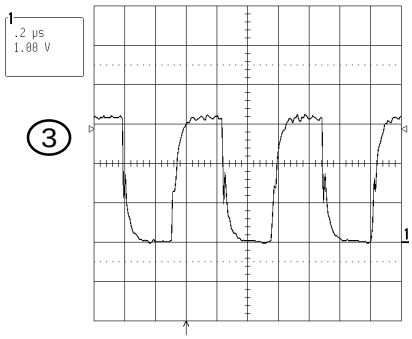


⑮

SYSCON



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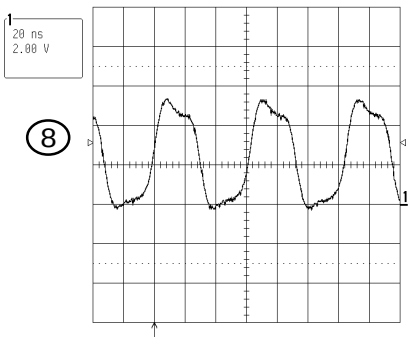
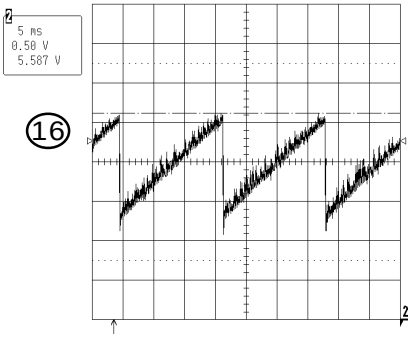


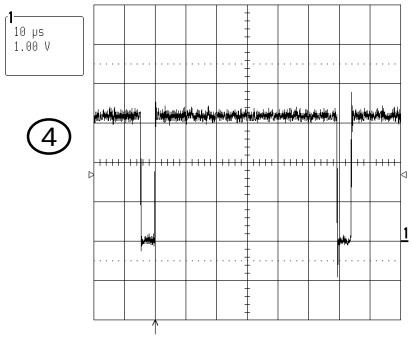
⑧

DEFLECTION



⑯

VIDEO ENCODER



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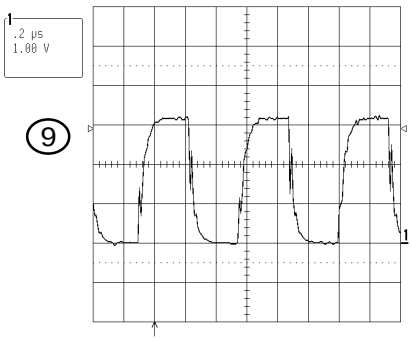

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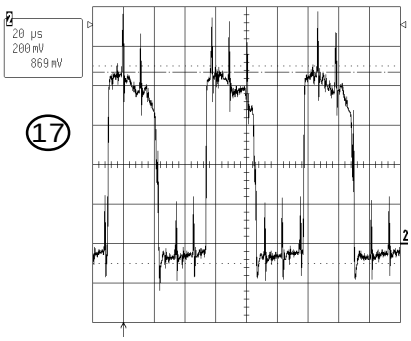
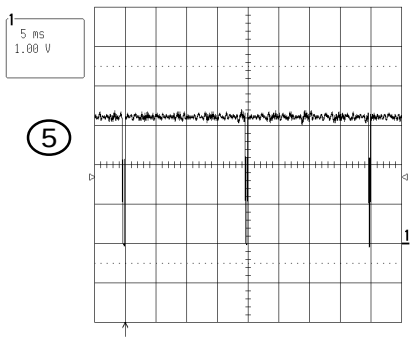
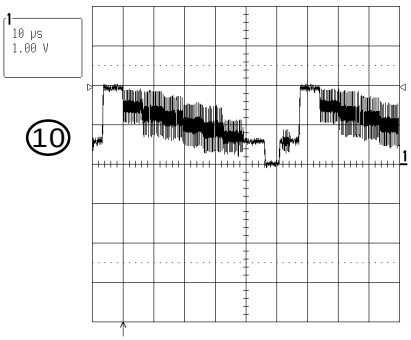


⑰



⑤



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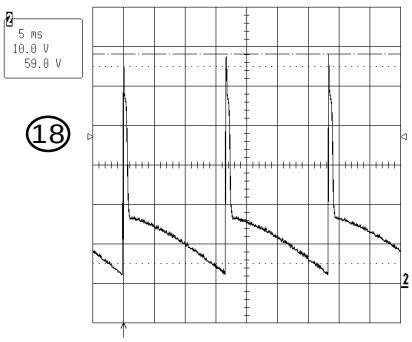


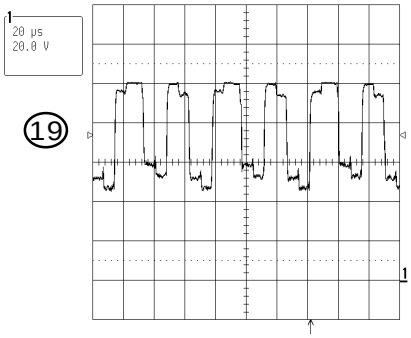
⑱

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

CRT

⑲



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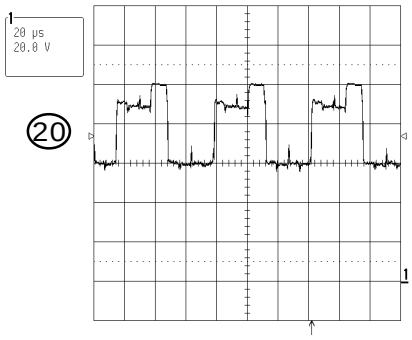

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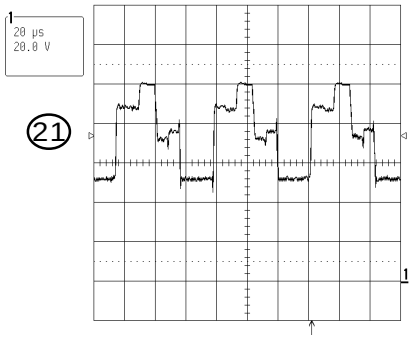

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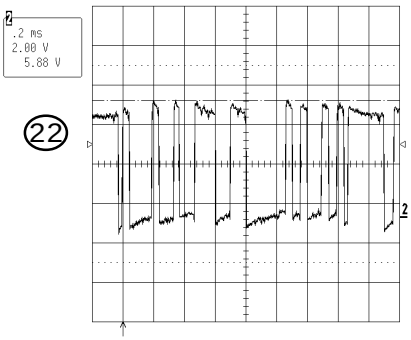

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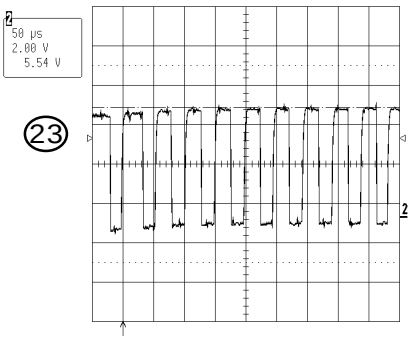

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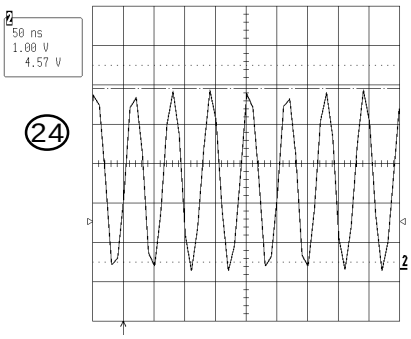

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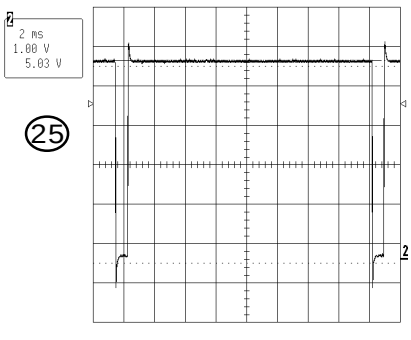

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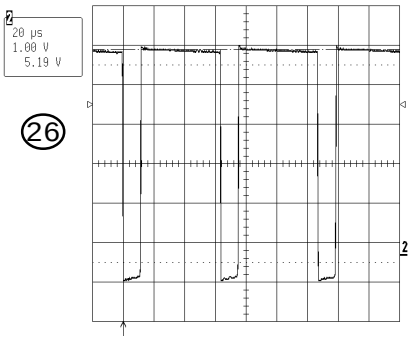

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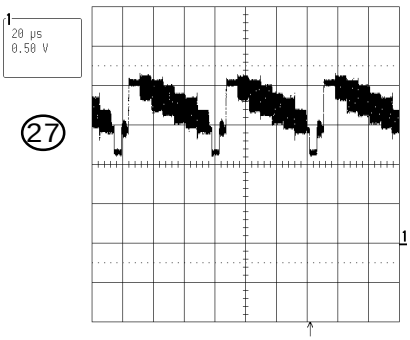

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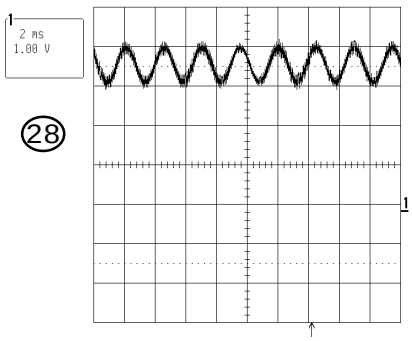

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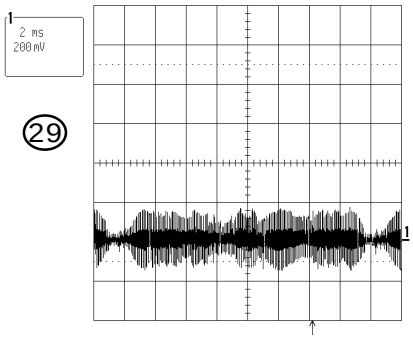

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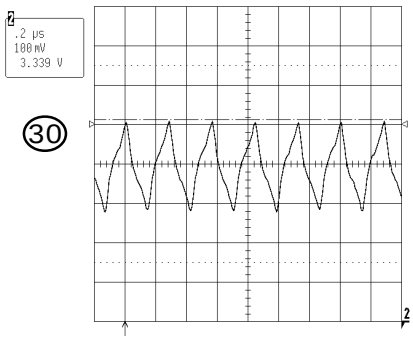

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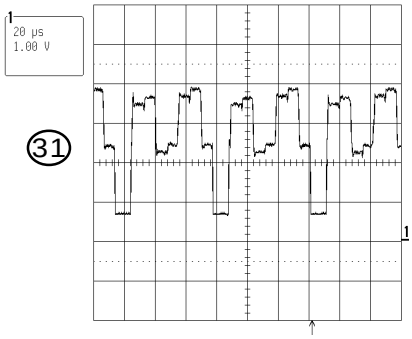

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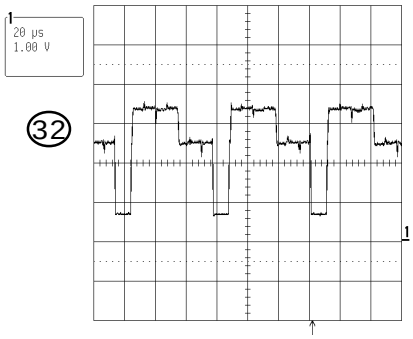

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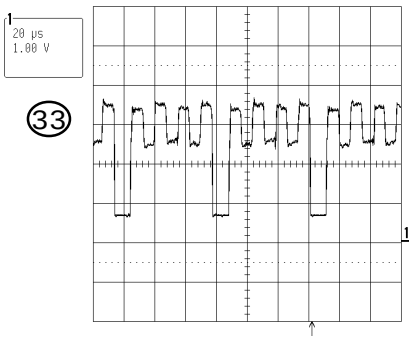


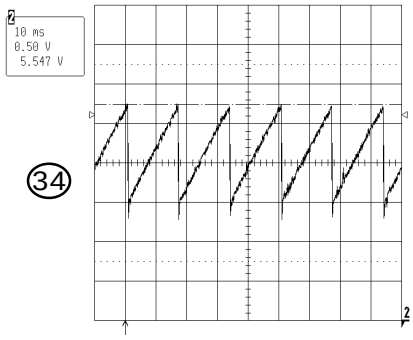
MICON/TUNER

VIF/SIF/CHROMA

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

IN/OUT



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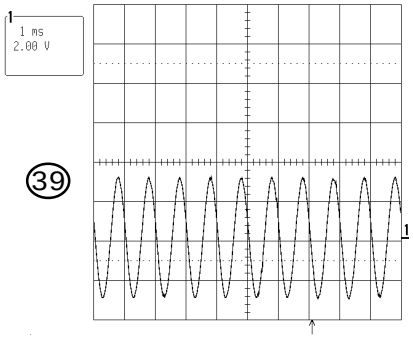
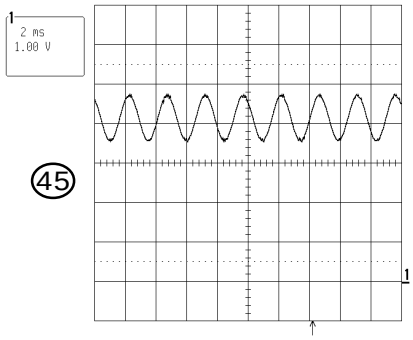
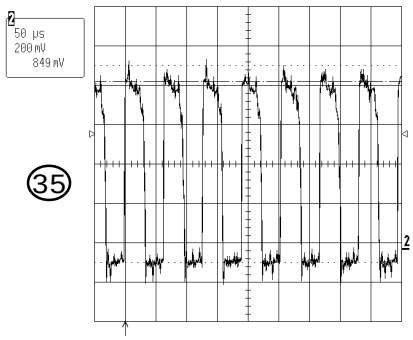


39

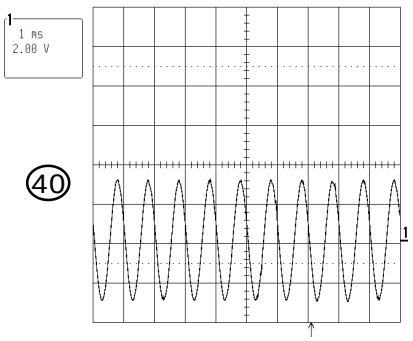


45

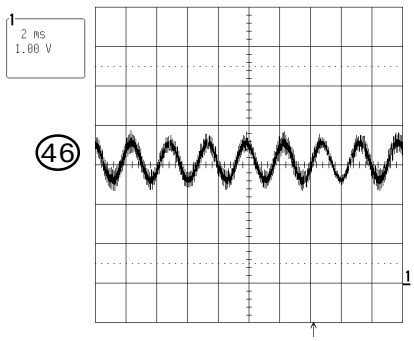
STEREO



35



40



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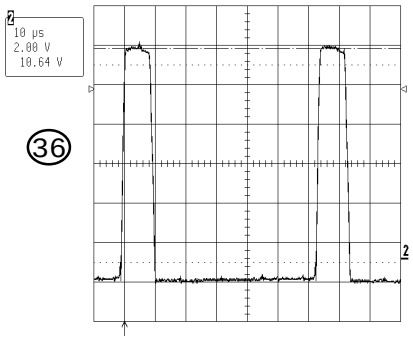
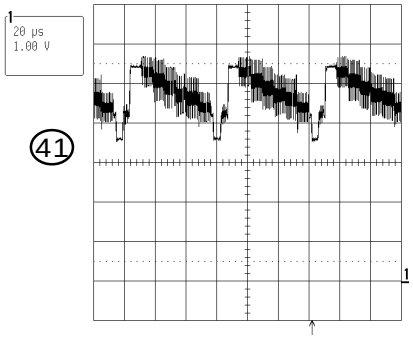
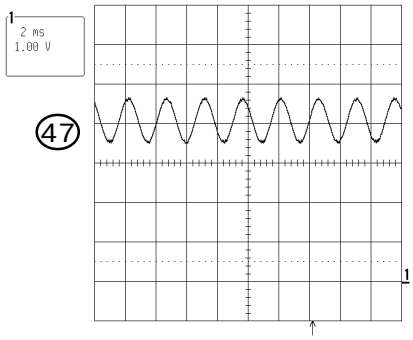


36

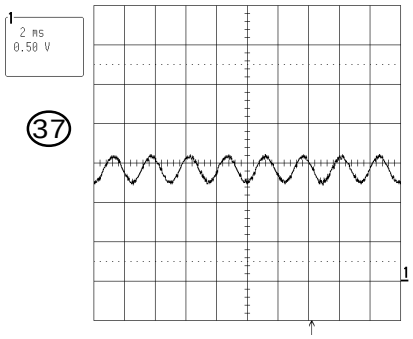


41

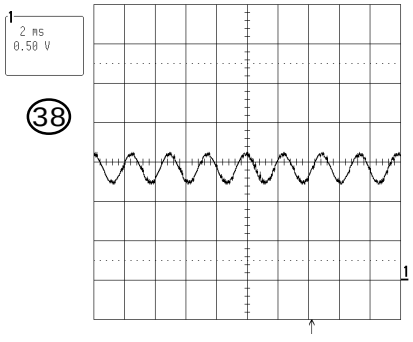


47

SOUND AMP

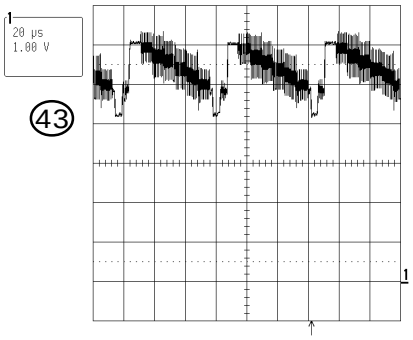


37

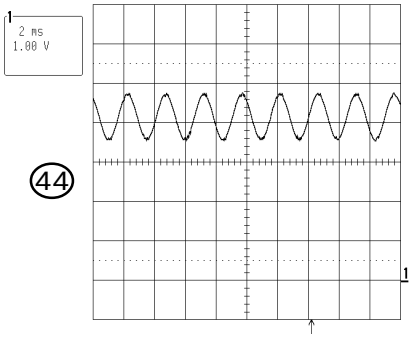


38

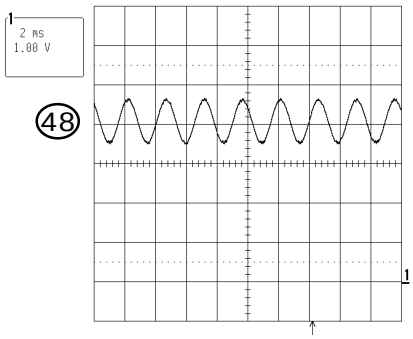
AV SW



43



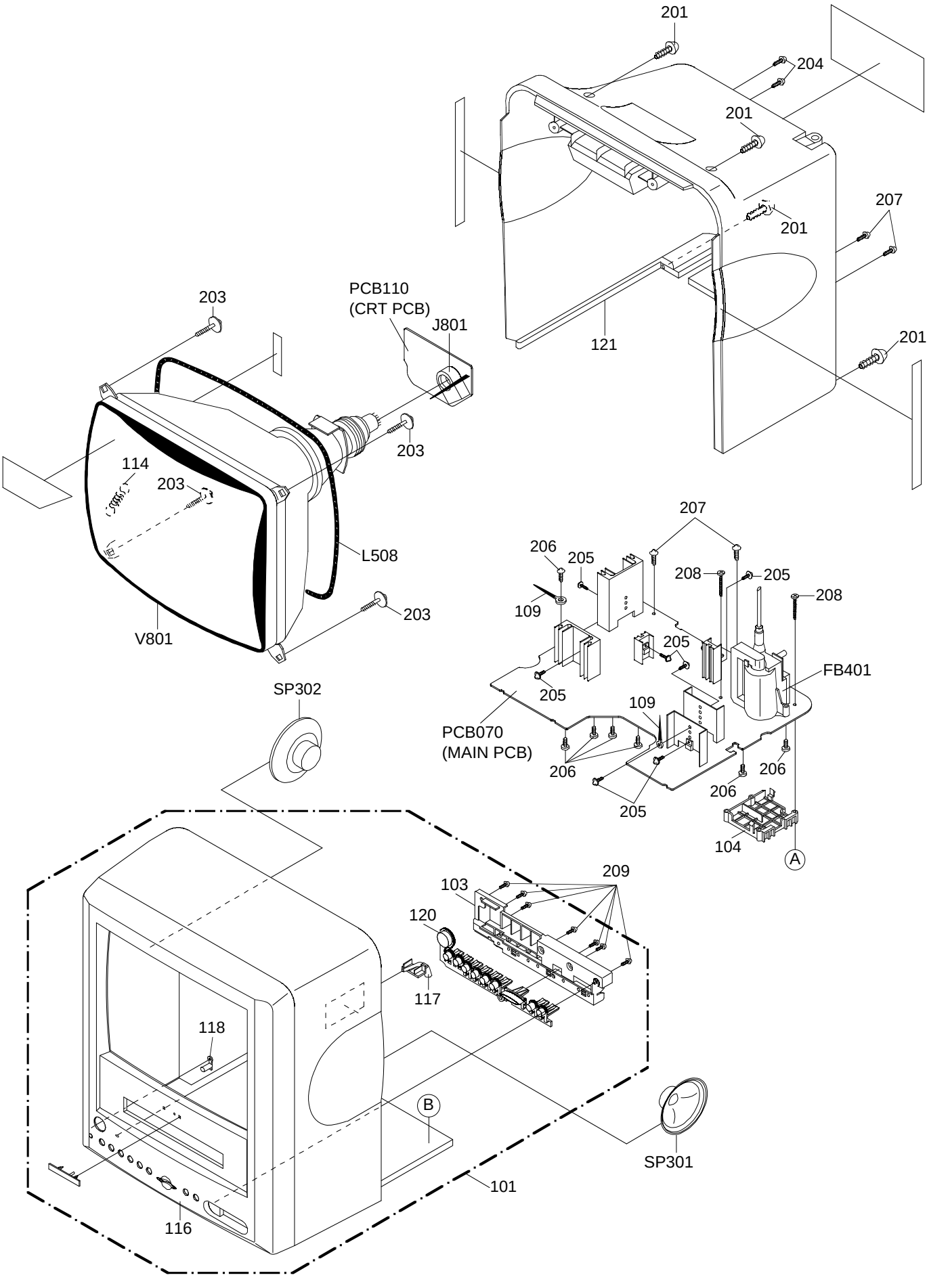
44



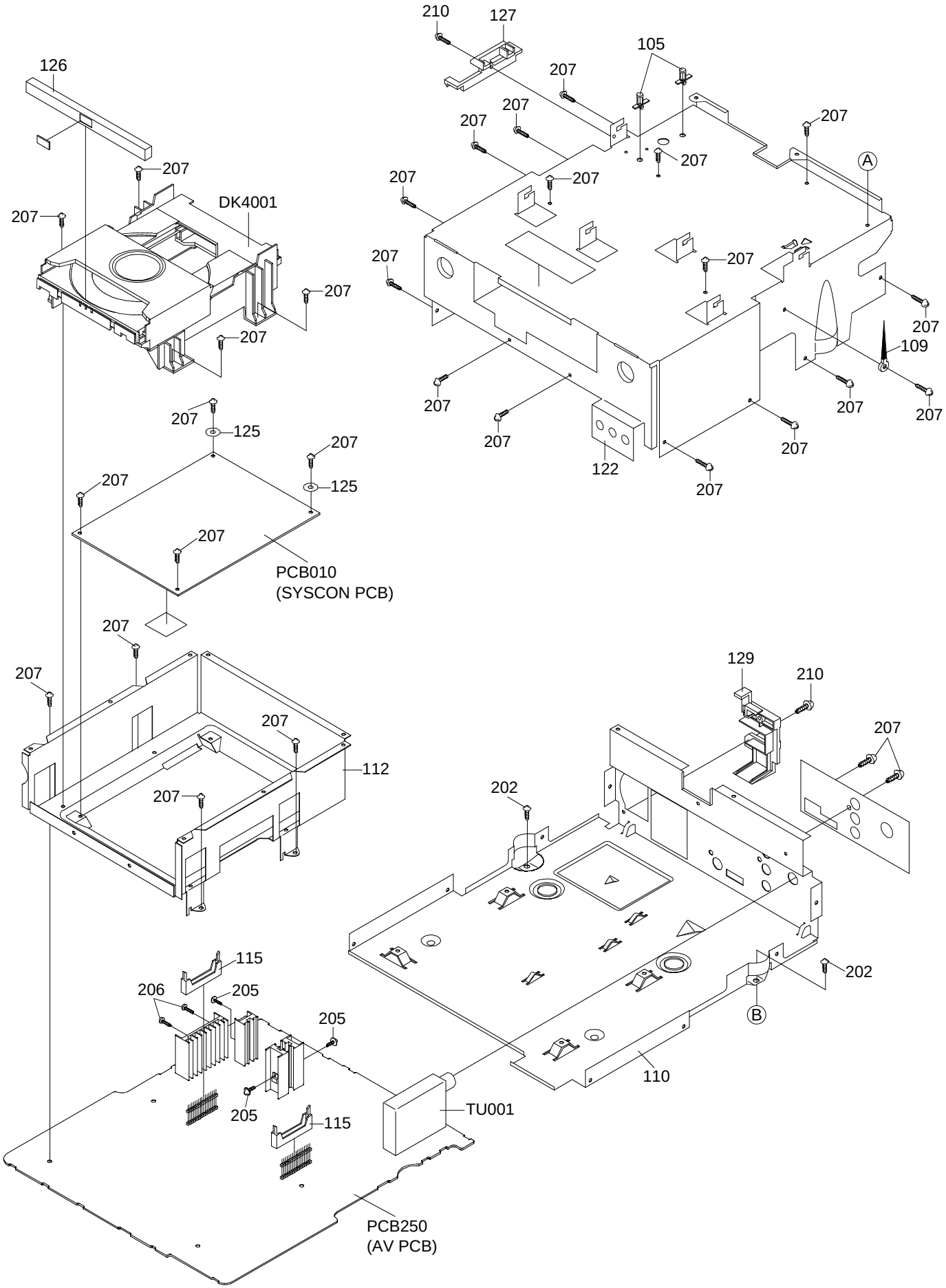
48

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW


210
127
105
126
207
207
207

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
101	BZ610218	A577A2I720	CABINET,FRONT ASSY	
103	BZ710289	738WPA0017	BUTTON,BASE	
104	BZ710293	761WPA0208	HOLDER,FBT	
105	BZ710284	890PS70100	PUSH SPACER	
109	BZ710039	8995034000	CORD CLIP UL CO.	
110	BZ710438	752WSA0237	PLATE,BOTTOM	
112	BZ710398	761WSA0079	ANGLE,DECK	
114	BZ710294	741WUA0002	SPRING,EARTH	
115	BZ710439	769WPA0017	GUIDE,CONNECTOR	
116	BZ710440	701WPJ1048	CABINET,FRONT	
117	BZ710441	713WPA0151	GLASS,LED	
118	BZ710442	713WPA0159	GUIDE,REMOCON	
120	BZ710443	735WPJ0184	BUTTON,FRAME	
121	BZ710291	702WPA0728	CABINET,BACK	
122	BZ710444	752WSA0225	SHIELD,TOP	
125	BZ710445	82A40B0104	FLAT WASHER	
126	BZ710446	712WPB0085	PLATE,TRAY-FRONT	
127	BZ710447	761WPA0212	HOLDER,M/PCB	
129	BZ710448	761WPA0211	HOLDER,BUSH	
201	BZ710035	8117540A64	SCREW,TAPPING(B0) TRUSS	4x16
202	BZ710449	8117140804	SCREW,TAPPING(B) PAN	4x8
203	BZ710450	8141J40B84	SCREW,TAP TITE(P) GW15	4x28
204	BZ710031	8110630A04	SCREW,TAP TITE(P) BRAZIER	3x10
205	BZ710239	8109I30A04	SCREW,TAP TITE(B) WH7	3x10
206	BZ710019	8109630802	SCREW,TAP TITE(B) BRAZIER	3x8
207	BZ710408	8109630604	SCREW,TAP TITE(B) BRAZIER	3x6
208	BZ710024	810A130B04	SCREW/WASHER(A)	M3x20
209	BZ710030	8110630804	SCREW,TAP TITE(P) BRAZIER	3x8
210	BZ710020	8109630804	SCREW,TAP TITE(B) BRAZIER	3x8
---	BZ710300	792WHA0281	PACKAGE,TOP	
---	BZ710301	792WHA0282	PACKAGE,BOTTOM	
---	BZ710451	793WCD1350	GIFT BOX	
---	BZ614279	J577A201	INSTRUCTION BOOK	

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description		
		RESISTORS			
R130	BZ210182	R002T4103J	RC	10K OHM 1/4W	
⚠R165	BZ210183	R3X18A220J	R,METAL OXIDE	22 OHM 2W	
⚠R166	BZ210184	R3X281101J	R,METAL OXIDE	100 OHM 1W	
⚠R404	BZ210112	R4X5T6152F	R,METAL	1.5K OHM 1/6W	
⚠R439	BZ210089	R4X5T6273F	R,METAL	27K OHM 1/6W	
⚠R440	BZ210090	R4X5T6822F	R,METAL	8.2K OHM 1/6W	
⚠R441	BZ210091	R4X5T6104F	R,METAL	100K OHM 1/6W	
⚠R442	BZ210114	R4X5T6123F	R,METAL	12K OHM 1/6W	
⚠R443	BZ210105	R4X5T6183F	R,METAL	18K OHM 1/6W	
⚠R447	BZ210185	R65582151J	R,FUSE	150 OHM 1/2W	
⚠R449	BZ210197	R5X2CE562J	R,CEMENT	5.6K OHM 7W	or
	BZ210186	R5W1CE562J	R,CEMENT	5.6K OHM 7W	
⚠R450	BZ210187	R65581100J	R,FUSE	10 OHM 1W	
⚠R500	BZ210001	R21202275K	R,SOLID	2.7M OHM 1/2W	
⚠R501	BZ210188	R5Y2CD010J	R,CEMENT	1 OHM 5W	
⚠R505	BZ210012	R3X28B473J	R,METAL OXIDE	47K OHM 3W	
⚠R511	BZ210048	R3X181R33J	R,METAL	0.33 OHM 1W	
⚠R528	BZ210086	R635U4681J	R,FUSE	680 OHM 1/4W	
⚠R529	BZ210189	R801R7272J	RC	2.7K OHM 1/10W	
R530	BZ210190	R63581R22J	R,FUSE	0.22 OHM 1W	
⚠R544	BZ210097	R3X18A1R5J	R,METAL OXIDE	1.5 OHM 2W	
⚠R545	BZ210099	R3X181153J	R,METAL OXIDE	15K OHM 1W	
R549	BZ210191	R3X28B010J	R,METAL	1 OHM 3W	
⚠R554	BZ210192	R002T4223J	RC	22K OHM 1/4W	
R647	BZ210193	R002T2271J	RC	270 OHM 1/2W	
⚠R802	BZ210099	R3X181153J	R,METAL OXIDE	15K OHM 1W	
⚠R805	BZ210099	R3X181153J	R,METAL OXIDE	15K OHM 1W	
⚠R810	BZ210099	R3X181153J	R,METAL OXIDE	15K OHM 1W	
		CAPACITORS			
C128	BZ110098	CHGTB0413K	CC	0.001 UF 50V B	
C153	BZ110156	E5EZF0332M	CE	3300 UF 6.3V	
C160	BZ110156	E5EZF0332M	CE	3300 UF 6.3V	
C171	BZ110156	E5EZF0332M	CE	3300 UF 6.3V	
C401	BZ110157	E02LT5220M	CE	22 UF 50V	
⚠C402	BZ110084	E5EZFC220M	CE	22 UF 200V	
⚠C406	BZ110018	E5EZT4101M	CE	100 UF 35V	
⚠C407	BZ110053	E02LF3102M	CE	1000 UF 25V	
C414	BZ110085	P21503475K	CMP	4.7 UF 250V ECQ-E	
C420	BZ110071	CHGTB04L2K	CC	330 PF 50V B	
⚠C422	BZ110121	E5EZTD010M	CE	1 UF 250V	
⚠C423	BZ110086	P447F2274J	CMPP	0.27 UF 200V FHS	
⚠C424	BZ210161	P4N8FJ682H	CMPP	0.0068UF 1.25KV	
⚠C425	BZ110122	C0JLYR7U2K	CC	680 PF 2KV YR	
⚠C429	BZ110016	E5EZT2471M	CE	470 UF 16V	
C430	BZ110123	C0JLYR713K	CC	0.001 UF 2KV YR	
⚠C431	BZ110125	C0JLYR7Q2K	CC	470 PF 2KV YR	
⚠C433	BZ110020	E5EZT8220M	CE	22 UF 100V	
⚠C502	BZ110088	C0JBB05H3K	CC	0.0022UF 500V B	
⚠C503	BZ110088	C0JBB05H3K	CC	0.0022UF 500V B	
⚠C505	BZ110138	P2472B224M	CMP	0.22UF 275V PHE840	
⚠C507	BZ110012	E51CGC471M	CE	470 UF 200V	
⚠C510	BZ110018	E5EZT4101M	CE	100 UF 35V	
C514	BZ110095	C0JLYR7E3K	CC	0.0015UF 2KV YR	
C515	BZ110091	E62FF3152M	CE	1500 UF 25V	
⚠C521	BZ110145	P2472B104M	CMP	0.1 UF 275V PHE840	
⚠C523	BZ110082	C034F0JL3M	CC	0.0033UF 125V MX	
C525	BZ110114	C0JLYR7W2K	CC	820 PF 2KV YR	
C528	BZ110023	E62DFB470M	CE	47 UF 160V	
⚠C529	BZ110108	E62FT2681M	CE	680 UF 16V	
⚠C532	BZ110108	E62FT2681M	CE	680 UF 16V	
⚠C534	BZ110139	E62NFB101M	CE	100 UF 160V	
⚠C535	BZ110108	E62FT2681M	CE	680 UF 16V	
⚠C536	BZ110032	E5EZF3102M	CE	1000 UF 25V	
⚠C537	BZ110158	E5EZT0102M	CE	1000 UF 6.3V	
⚠C540	BZ110028	E5EZT2102M	CE	1000 UF 16V	
C543	BZ110114	C0JLYR7W2K	CC	820 PF 2KV YR	
C544	BZ110032	E5EZF3102M	CE	1000 UF 25V	
C551	BZ110091	E62FF3152M	CE	1500 UF 25V	
C801	BZ110123	C0JLYR713K	CC	0.001 UF 2KV YR	
		DIODES			
D101	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77	
D102	BZ410089	0021320220	LED	SLP-9118C-51H-S-T1	
D104	BZ410020	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77	
D111	BZ410066	D97U06R21B	DIODE,ZENER	MTZJ6.2B T-77	
D202	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77	
D401	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC	
D402	BZ410014	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3	

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
		DIODES		
D403	BZ410023	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
⚠D408	BZ410018	D94TA27011	DIODE,ZENER	HZ27-1L TD
⚠D409	BZ410017	D94TA11B13	DIODE,ZENER	HZ11B3L TD
⚠D411	BZ410014	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3
⚠D412	BZ410014	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3
⚠D413	BZ410014	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3
⚠D415	BZ410063	D2WTAU02A0	DIODE,SILICON	AU02A-EIC
D416	BZ410090	D97U04R71B	DIODE,ZENER	MTZJ4.7B T-77
D501	BZ410061	D97U01001B	DIODE,ZENER	MTZJ10B T-77
D502	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D503	BZ410044	D4LZBL06L0	DIODE	GBL06L-6177
D505	BZ410018	D94TA27011	DIODE,ZENER	HZ27-1L TD
D506	BZ410063	D2WTAU02A0	DIODE,SILICON	AU02A-EIC
D508	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D510	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
⚠D511	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
D513	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
⚠D515	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D516	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D517	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D518	BZ410014	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3
D519	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D520	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D521	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D522	BZ410065	D97U01601B	DIODE,ZENER	MTZJ16B T-77
D523	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D524	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D526	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D528	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
⚠D530	BZ410009	D28T11E1N1	DIODE,SILICON	11E1N-TA1B2
⚠D531	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
⚠D532	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
D534	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D537	BZ410059	D2WT11ES10	DIODE,SILICON	11ES1-EIC
⚠D538	BZ410059	D2WT11ES10	DIODE,SILICON	11ES1-EIC
⚠D539	BZ410059	D2WT11ES10	DIODE,SILICON	11ES1-EIC
⚠D540	BZ410091	D230PF6DT0	DIODE,SILICON	FEPF6DT
⚠D541	BZ410028	D2BTRU2AM0	DIODE,SILICON	RU2AM V1
⚠D542	BZ410028	D2BTRU2AM0	DIODE,SILICON	RU2AM V1
⚠D544	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
⚠D545	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
D546	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D547	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D548	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D549	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D550	BZ410066	D97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D551	BZ410067	D97U02R21B	DIODE,ZENER	MTZJ2.2B T-77
⚠D552	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
D553	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D554	BZ410076	D2WXB290S0	DIODE,SILICON	SB290S
D603	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D604	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D605	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D610	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D611	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D612	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D613	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D614	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D615	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D1002	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D1003	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D1004	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D7005	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D7006	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D7010	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D7011	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D7012	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D7013	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8505	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D8506	BZ410086	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
		ICS		
IC101	BZ611060	I55D06063A	IC	OEC6063A
IC102	BZ611061	I9UJ0T600C	IC	PST600C
⚠IC151	BZ611015	I1KA97805A	IC	KIA7805API
⚠IC152	BZ611015	I1KA97805A	IC	KIA7805API
⚠IC153	BZ611033	I1KA97809A	IC	KIA7809API
⚠IC154	BZ611015	I1KA97805A	IC	KIA7805API

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
			ICS	
IC199	BZ610213	A577A2I255	IC	S-24C08ADPA-01
⚠IC302	BZ611035	I0FSP75220	IC	AN7522
⚠IC401	BZ611025	I03TD80400	IC	LA78040
⚠IC501	BZ611041	I2BT066230	IC	STR-G6623
⚠IC503	BZ611015	I1KA97805A	IC	KIA7805API
⚠IC504	BZ611044	IDJD076100	IC	FA7610CP
⚠IC506	BZ410040	0002500560	PHOTO COUPLER	TLP621(D4-GR-LF2)
IC601	BZ611064	I05DC12530	IC	TB1253N
IC701	BZ611066	I0UD013110	IC	MM1311AD
IC902	BZ611068	I01FF58290	IC	AN5829S
IC1001	BZ611069	ICQF067030	IC	ZR36703
IC1006	BZ611070	I57F04C01W	IC	BR24C01AF-WE2
IC4001	BZ611071	ICQF067100	IC	MD36710X
IC4002	BZ611072	ICLJ0610DB	IC	HY57V161610DTC-8
IC4004	BZ611073	I5CF040520	IC	SN74LV4052APW
IC7001	BZ611074	I0QF045800	IC	NJM4580M
IC8501	BZ611076	I5VF0865A0	IC	BT865AKRF
IC8503	BZ611077	I17F017160	IC	PCM1716E
IC8504	BZ611073	I5CF040520	IC	SN74LV4052APW
			TRANSISTORS	
Q101	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q103	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q105	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q110	BZ510050	TD3T008630	TRANSISTOR,SILICON	2SD863(E,F)-AE
Q111	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q151	BZ510060	TB3T011310	TRANSISTOR,SILICON	2SB1131(S,T)-AE
Q152	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q153	BZ510083	TBWT009260	TRANSISTOR,SILICON	2SB926(S,T)-AA
⚠Q154	BZ510076	TB30011430	TRANSISTOR,SILICON	2SB1143(S,T,U)
Q155	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q156	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q157	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q158	BZ510065	TBWT006980	TRANSISTOR,SILICON	2SB698(E,F)-AA
Q159	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q160	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q202	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q203	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q204	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q205	BZ510061	T83A028140	TRANSISTOR,SILICON	2SC2814(F3,F4)-T
Q301	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q303	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q304	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q401	BZ510025	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146
⚠Q402	BZ510052	TF2002P4M0	THYRISTOR	2P4M
Q404	BZ510022	TNYJJ05001	COMPOUND TRANSISTOR	DTC114TKAT146
⚠Q405	BZ510010	TC3T022710	TRANSISTOR,SILICON	2SC2271(D,E)-AE
⚠Q406	BZ510036	TD30026270	TRANSISTOR,SILICON	2SD2627LS-CBC11
Q407	BZ510025	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146
Q408	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q471	BZ510011	TC3T029090	TRANSISTOR,SILICON	2SC2909(S,T)-AA
Q472	BZ510005	TA3T1371A0	TRANSISTOR,SILICON	2SA1371(D,E)-AE
⚠Q501	BZ510012	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
Q504	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
⚠Q505	BZ510053	T410029030	FET	2SK2903-01MR
Q506	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q507	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
⚠Q508	BZ510004	TA3T016240	TRANSISTOR,SILICON	2SA1624-AA
⚠Q509	BZ510012	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
⚠Q510	BZ510076	TB30011430	TRANSISTOR,SILICON	2SB1143(S,T,U)
Q511	BZ510012	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
⚠Q512	BZ510054	TAST009520	TRANSISTOR,SILICON	2SA952(C)-T(L,M)
Q513	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q514	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q515	BZ510022	TNYJJ05001	COMPOUND TRANSISTOR	DTC114TKAT146
⚠Q516	BZ510060	TB3T011310	TRANSISTOR,SILICON	2SB1131(S,T)-AE
⚠Q517	BZ510060	TB3T011310	TRANSISTOR,SILICON	2SB1131(S,T)-AE
Q518	BZ510020	TNYJB05001	COMPOUND TRANSISTOR	DTC114EKAT146
Q521	BZ510084	TB3T006980	TRANSISTOR,SILICON	2SB698-AA
Q522	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q602	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q603	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q702	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
⚠Q804	BZ510085	TC3T034680	TRANSISTOR,SILICON	2SC3468(D,E)-AE
⚠Q805	BZ510085	TC3T034680	TRANSISTOR,SILICON	2SC3468(D,E)-AE
⚠Q806	BZ510085	TC3T034680	TRANSISTOR,SILICON	2SC3468(D,E)-AE
Q7001	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7002	BZ510001	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
		TRANSISTORS		
Q7003	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7004	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7005	BZ510025	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146
Q7006	BZ510045	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q7007	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7008	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7009	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q7010	BZ510081	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q7011	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7012	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7013	BZ510012	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
Q7014	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q7015	BZ510034	TA5T010154	TRANSISTOR,SILICON	2SA1015Y(TPE2)
Q8002	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q8003	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q8501	BZ510002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
		COILS &TRANSFORMERS		
L001	BZ310005	02167D101K	COIL	100 UH
L005	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L010	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L011	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L201	BZ310067	021LA6180K	COIL	18 UH
L202	BZ310041	02167F101J	COIL	100 UH
L203	BZ310041	02167F101J	COIL	100 UH
L205	BZ310049	021LA6R22M	COIL	0.22 UH
L206	BZ310005	02167D101K	COIL	100 UH
L207	BZ310109	021LA62R7K	COIL	2.7 UH
L208	BZ310085	021LA61R2M	COIL	1.2 UH
L401	BZ310004	021679472K	COIL	4.7 MH
L403	BZ310079	021LA6101J	COIL	100 UH
⚠L501	BZ310099	029T000092	COIL,LINE FILTER	1R0A103F24
L503	BZ310083	021767100K	COIL	10 UH
⚠L508	BZ310096	028R090008	COIL,DEGAUSS	8R090008
L601	BZ310041	02167F101J	COIL	100 UH
L602	BZ310041	02167F101J	COIL	100 UH
L609	BZ310117	021LA6330K	COIL	33 UH
L701	BZ310041	02167F101J	COIL	100 UH
L702	BZ310043	021LA6150K	COIL	15 UH
L801	BZ310002	021673101K	COIL	100 UH
L902	BZ310041	02167F101J	COIL	100 UH
L7001	BZ310041	02167F101J	COIL	100 UH
L7002	BZ310042	021LA6101K	COIL	100 UH
L7003	BZ310041	02167F101J	COIL	100 UH
L8503	BZ310127	02167B1R8K	COIL	1.8 UH
T401	BZ310025	03305Y002S	TRANS,HORIZONTAL DRIVE	305Y002
⚠T501	BZ310134	0481290654	TRANSFORMER,SWITCHING	81290654
⚠T502	BZ310135	0481350574	TRANSFORMER,SWITCHING	81350574
		JACKS		
⚠J301	BZ614144	0602131011	HEADPHONE JACK	HSJ2000-01-010
⚠J503	BZ614145	0602602006	JACK,DC	HEC0824-010010
⚠J801	BZ614004	066X120014	SOCKET,CATHODE RAY TUBE	HPS3200-010501
J7001	BZ614225	060Q401038	RCA JACK	YKC21-3895
J7002	BZ614204	060Q411015	RCA JACK	AV3-19D-1
J8001	BZ614280	060G421020	RCA JACK	HTJ-032-05AR
J8002	BZ614147	060G421017	RCA JACK	HTJ-032-05AW
J8003	BZ614146	060G421016	RCA JACK	HTJ-032-05AY
		SWITCHES		
SW101	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW102	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW103	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW104	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW105	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW106	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW107	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW108	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW109	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
SW110	BZ612001	0504201T31	SWITCH,TACT	SKHVBED010
		VARIABLE RESISTORS		
VR402	BZ210194	V1263H3BT7	VOLUME,SEMI FIXED	RH0683CJ3R
VR501	BZ210128	V1163H3BTC	VOLUME,SEMI FIXED	EVNCYAA03BE3
VR502	BZ210068	V1163Q3BTC	VOLUME,SEMI FIXED	EVNCYAA03BQ3
		P.C.BOARD ASSEMBLIES		
PCB010	BZ610214	A577A2I01A	PCB ASS'Y	VMA215A
PCB070	BZ610215	A577A2I07A	PCB ASS'Y	TMX487B
PCB110	BZ610216	A577A2I11A	PCB ASS'Y	TCX345B
PCB250	BZ610217	A577A2I25A	PCB ASS'Y	TMX486A

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
		MISCELLANEOUS		
B501	BZ310130	024HT03564	CORE,BEADS	W4BRH3.5X6X1
B502	BZ310122	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
B503	BZ310130	024HT03564	CORE,BEADS	W4BRH3.5X6X1
B504	BZ310122	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
B505	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B507	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B1001	BZ310130	024XC36002	CORE,BEADS	N2012ZP600T25
B4001	BZ310130	024XC36002	CORE,BEADS	N2012ZP600T25
B4002	BZ310130	024XC36002	CORE,BEADS	N2012ZP600T25
B7001	BZ310130	024HT03564	CORE,BEADS	W4BRH3.5X6X1
B8501	BZ310130	024XC36002	CORE,BEADS	N2012ZP600T25
B8502	BZ310130	024XC36002	CORE,BEADS	N2012ZP600T25
B8503	BZ310130	024XC36002	CORE,BEADS	N2012ZP600T25
B8505	BZ310130	024XC36002	CORE,BEADS	N2012ZP600T25
BL001	BZ310014	023C00022A	COIL,BALUN	HPN-01
CD001	BZ614282	06CH01423A	CORD,CONNECTOR	CH01423A
CD003	BZ614263	06CH011801	CORD,EIS CONNECTOR	CH011801
CD401	BZ614264	06CH01429A	CORD,EIS CONNECTOR	CH01429A
⚠CD501	BZ614197	1207414905	CORD,AC BUSH	7414905
CD503	BZ614133	069X620040	CONNECTOR	JM-2BK-61
⚠CD504	BZ614196	121B164101	CORD,CAR BATTERY	SI-PC107-67
CD801	BZ614175	06CU82039A	CORD,CONNECTOR	SM1098-009-1A
CD803	BZ614151	122E042705	CORD,JUMPER	2E042705
CD810	BZ614265	122E0C2201	CORD,JUMPER	2E0C2201
CD811	BZ614266	06CH26105B	CORD,CONNECTOR	CH26105B
CD850	BZ614267	122Y054403	CORD,JUMPER	2Y054403
CF201	BZ613016	1011T4R517	FILTER,CERAMIC	EFCT4R5MW5
CF202	BZ613015	1011T4R504	FILTER,CERAMIC	EFCT4R5YS5A
CF203	BZ613022	1022T45R74	FILTER,SAW	SAF45MFG220Z
CF204	BZ613018	1012T04702	FILTER,CERAMIC TRAP	MKT47.3MC110P-TF
CP101	BZ614238	0697260650	CONNECTOR PCB SIDE	TKC-M06X-A1
CP301	BZ614268	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
CP302	BZ614268	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
⚠CP401	BZ614154	069X440029	CONNECTOR PCB SIDE	B04B-DVS
CP402	BZ614016	069W01001A	CONNECTOR PCB SIDE	003P-2100
⚠CP403	BZ614018	069W420029	CONNECTOR PCB SIDE	TV-50P-02-A1
CP503	BZ614137	069X620030	CONNECTOR PCB SIDE	RE-H022TD-1130
CP801	BZ614269	069S320010	CONNECTOR PCB SIDE	A2361WV2-2P
CP811	BZ614270	069X260579	CONNECTOR PCB SIDE	B6B-PH-K-S
CD4001	BZ614243	122S0Q0901	CORD,JUMPER	2S0Q0901
CD4002	BZ614243	122S0G0901	CORD,JUMPER	2S0G0901
CP4001	BZ614245	069JVQ0180	CONNECTOR PCB SIDE	IMSA-9615S-26C-P
CP4002	BZ614245	069JVG0180	CONNECTOR PCB SIDE	IMSA-9615S-16C-P
CP8001	BZ614246	0694290139	CONNECTOR PCB SIDE	173979-9
CP8002	BZ614271	069J2I0660	CONNECTOR PCB SIDE	9210B-1-18Z713-T
CP8003	BZ614271	069J2I0660	CONNECTOR PCB SIDE	9210B-1-18Z713-T
CP803A	BZ614157	067R104019	WIRE HOLDER	51052-0400
CP803B	BZ614157	067R104019	WIRE HOLDER	51052-0400
CP810A	BZ614272	067U012039	WIRE HOLDER	B2013H02-12P
CP810B	BZ614251	069R2C0589	CONNECTOR PCB SIDE	52147-1210
CP820A	BZ614273	067U010049	WIRE HOLDER	B2013H02-10P
CP820B	BZ614274	069R2A0589	CONNECTOR PCB SIDE	52147-1010
CP8501	BZ614275	069W2I0071	CONNECTOR PCB SIDE	TKC-A18X-J1
CP8502	BZ614275	069W2I0071	CONNECTOR PCB SIDE	TKC-A18X-J1
CP850A	BZ614276	067U005049	WIRE HOLDER	B2013H02-5P
CP850B	BZ614212	069R250589	CONNECTOR PCB SIDE	52147-0510
CUS251	BZ710279	800WFAA006	CUSHION A	
CUS252	BZ710279	800WFAA006	CUSHION A	
⚠DY801	BZ310088	0271080901	DY	KDY3CFB23M
⚠DK4001	BZ610185	169G00004A	DECK CD	DVD-KIT310SU
EL001	BZ614043	124116281A	EYE LET	XRY16X28BD
EL002	BZ614044	124120301A	EYE LET	XRY20X30BD
⚠F501	BZ614177	081PC05004	FUSE	51MS050LCC
⚠FB401	BZ310089	043210012R	TRANSFORMER,FLYBACK	3210012R
FH501	BZ614005	06710T0006	HOLDER,FUSE	EYF-52BC
FH502	BZ614005	06710T0006	HOLDER,FUSE	EYF-52BC
⚠ICP502	BZ614277	0835C10003	MICRO FUSE	20N_10KFS
OS101	BZ614171	077Q014003	REMOTE RECEIVER	PIC-28143SY-2
⚠RY503	BZ612011	0560V10118	RELAY	ALKS325
RY7001	BZ612012	0560110203	RELAY	ATX207
⚠SP301	BZ614278	070W132017	SPEAKER	NS-300RW-1
⚠SP302	BZ614278	070W132017	SPEAKER	NS-300RW-1
TM101	BZ614254	076N0EF010	TRANSMITTER	DC-FL20S
⚠TU001	BZ610125	0145K00055	TUNER,VHF-UHF	TECC1040PG32D
⚠V801	BZ614161	09D1090401	CRT W/O DY	A22JWG098X
X101	BZ613019	1002T01606	CERAMIC OSCILLATOR	CSTLS16M0X53-A0
X601	BZ613004	100CT3R505	CRYSTAL	HC-49/C

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		MISCELLANEOUS		
X1001	BZ613020	100CT01210	CRYSTAL	HC-49/U
X4001	BZ613021	100DA02706	CRYSTAL	AT-49

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

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